

9 & 7 Library

SOAP

and

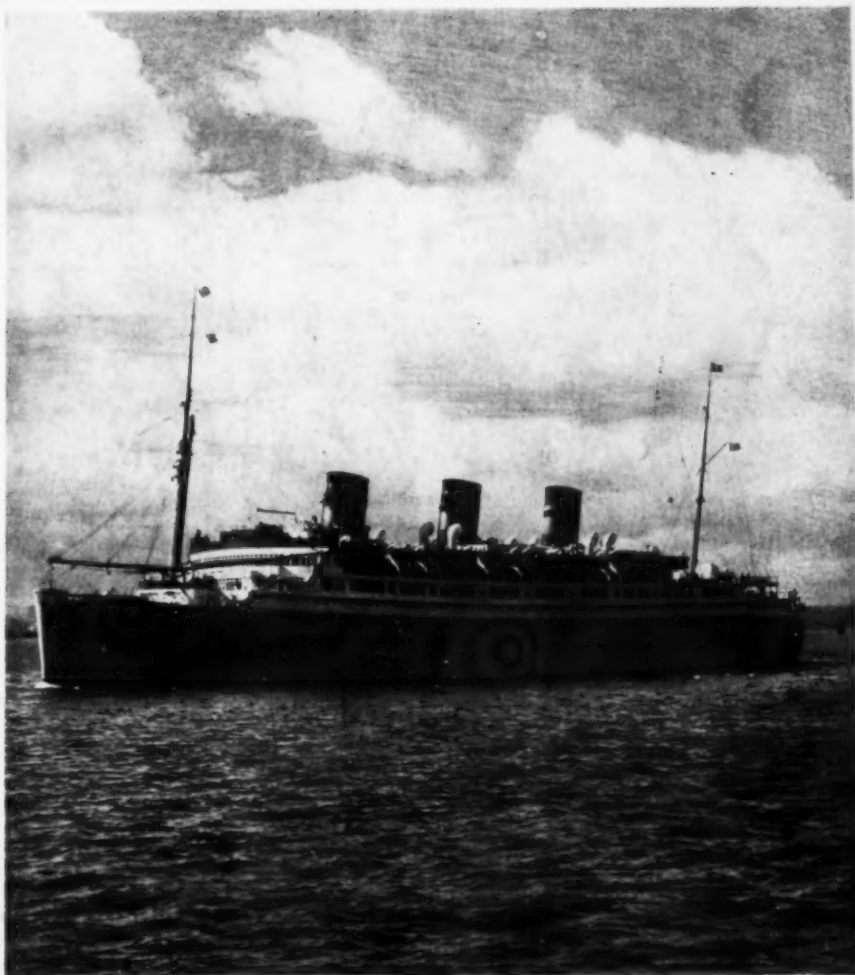
SANITARY CHEMICALS

OHIO STATE
UNIVERSITY
NOV 27 1945

***Soon
again . . .***

FROM the "four corners of the earth," — an UNGERER slogan for fifty years in supplying leading manufacturers with perfuming materials, — a slogan which with the gradual reopening of the lanes of commerce bids fair soon again to become a reality. For essential oils, aromatic chemicals, and perfume specialties from the "four corners of the earth" . . .

***. . . Consult
UNGERER!***



November 1945

WHICH WAY to SUCCESSFUL SALES



YOU know . . . and we know . . . the way to successful sales is thru a product with a better appeal. We know . . . from experience . . . that our exceptional laboratory and research facilities have enabled us to develop perfume raw materials that have the required plus on appeal. We know and we want you to know that these have improved sales for many a leading cosmetic or perfume manufacturer such as yourself.

VERATRALDEHYDE
ISO BUTYL FURYL PROPIONATE
PHENYL ACETALDEHYDE DIMETHYL ACETAL

HYDRATROPIC ALDEHYDE
PARA METHYL HYDRATROPIC ALDEHYDE
CYCLAMAL INDOL IONONES

Also a full line of Aromatic Chemicals used for Perfumes — Soaps — Cosmetics

Requests for samples on your firm's letterhead and further information will be promptly furnished

Aromatics Division

GENERAL DRUG COMPANY
125 Barclay St., New York 7, N. Y.

9 S. CLINTON ST., CHICAGO 6

1019 ELLIOTT ST., W., WINDSOR, ONT.

FLORANOL—A Single Chemical
Used in Compounding Rose Odors

*Out of the War Comes This
Great New Disinfectant!*

FULDICIDE

No. 25

DISINFECTANT • GERMICIDE • FUNGICIDE

**Hundreds of Thousands of Gallons
were used by our Armed Services!**

Stronger! More powerful! Almost universal in its application! FULDICIDE was developed by the Fuld Laboratories for war use by our armed services. Now it is ready for you . . . a revolutionary new product that marks a great step forward in the sanitary chemical field. FULDICIDE is a cationic disinfectant, developed from a formula of higher alkyl hetrocyclic quaternary ammonium chlorides. It is completely water soluble in all proportions. It contains no mercury compounds, or other heavy or light metals, hypochlorites, peroxides or iodides. In recommended use-dilutions it is non-toxic, non-irritating and non-corrosive. FULDICIDE has extremely high surface active properties, permitting it to penetrate readily into infected areas. FULDICIDE is recommended for use as a general sanitary disinfectant, in hotels and restaurants, dairies, industrial plants, hospitals and food-processing plants. Write or wire for your FULDICIDE sample, prices, and descriptive bulletin.

Phenol Coefficients (FDA Method)

E. typhosa	25
S. aureus	40

702 South Wolfe Street, Baltimore 31, Md.
2444 East 8th Street, Los Angeles 21, Calif.
New York Sales Office: 55 West 42nd Street

*Fuld
Brothers*

Liquid Soaps, Floor Seals, Floor Treatments, Deodorant Blocks, Liquid Deodorants, Plumbing Specialties, Special Cleaners, Self-Polishing Waxes, Powdered Waxes, Oil Soaps, Liquid Cleaners, Disinfectants, Insecticides, Metal Polishes, Furniture Polishes, Deodorant Block Holders, Soap Dispensers.

November, 1945

Say you saw it in SOAP!

3

B & Z Library



Some Monsanto Products Derived from Monsanto Phosphorus

Phosphoric Acid • Monosodium Phosphate • Disodium Phosphate (Anhydrous and Dihydrate) • Trisodium Phosphate Tetra Sodium Pyrophosphate • Acid Sodium Pyrophosphate • Ammonium Phosphates • Calcium Phosphates • Tetra Potassium Pyrophosphate • Special Phosphates for Special Applications



Your soap will sell faster

**If It Contains Monsanto's
Tetra Sodium Pyrophosphate**

Many manufacturers of built soaps have discovered that the addition of Monsanto's Tetra Sodium Pyrophosphate to their formulas has resulted in increased sales of their products. That's because soap that contains Tetra Sodium Pyrophosphate has faster cleaning action, gives twice the suds, results in whiter, brighter washes, is non-injurious to washable colors and is easier on the hands.

Monsanto's Tetra Sodium Pyrophosphate is manufactured from Monsanto-produced elemental phosphorus which tests better than 99.9% pure. Monsanto, world's largest producer of elemental phosphorus, carefully and completely guards every step in production, from raw materials to the Tetra Sodium Pyrophosphate that serves your industry.

Information and a sample will be sent on request. Please use the convenient coupon, contact the nearest Monsanto office or write: MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri. District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Cincinnati, Los Angeles, San Francisco, Seattle, Montreal, Toronto.

MONSANTO CHEMICAL COMPANY,
Dept. PH-28, Phosphate Division,
1700 South Second Street, St. Louis 4, Missouri

Please send, without cost or obligation, a sample of Monsanto Tetra Sodium Pyrophosphate.

Name _____
Company _____
Street _____
City _____ Zone _____ State _____

SOAP

and

SANITARY CHEMICALS

Volume XXI

Number 11

November, 1945

CONTENTS

Editorials	27
Soap Plant Layout.....	29
By Dr. E. G. Thomssen	
Water Softeners	32
By Milton Lesser	
Control of Aquatic Weeds.....	35
By Arnold H. Haverlee	
Rosin Market Outlook.....	39
Bleaching in the Soap Plant.....	59
Solvents for DDT.....	110
By Howard A. Jones, Helen J. Fluno and George T. McCollough	
Comparative Toxicity of 666, DDT and Pyrethrum.....	117
By W. A. Gersdorff and E. R. McGevran	
Antioxidants for Pyrethrum Powders.....	119
By R. C. Bushland, Milton S. Schechter, Howard A. Jones and E. F. Knipling	
Adulteration and Misbranding.....	123
By Dr. C. C. McDonnell	
Rotenone Analysis	127
By R. H. Carter, S. B. Soloway, H. D. Mann and Nathan Green	
Bids and Awards.....	49
New Trademarks	51
Raw Material Markets.....	55
Production Clinic	63
Products and Processes.....	67
New Patents	69
Sanitary Products Section.....	79
Technical Briefs	129
Classified Advertising	153
Advertisers' Index	157

Published Monthly By

MAC NAIR-DORLAND COMPANY

254 West 31st, New York, N. Y.



Subscription rate, \$3.00 per year. Foreign, including Canadian, \$4.00. Copy closing dates—22nd of month preceding month of issue for reading matter and 10th of month preceding month of issue for display advertising. Reentered as second-class matter, Feb. 9, 1938, at Post Office, New York, under act of Mar. 3, 1879. Mail circulation Oct. 1945. 4331 copies. Total circulation 4550.

SOLVE

Textile Processing Troubles with **QUADRAFOS**

QUADRAFOS in Boil-Off Compounds—

- ... Prevents iron stains
- ... Eliminates reaction of alkalis and other assistants with hard water
- ... Stops goods from picking up appreciable amounts of insoluble materials responsible for resists in bleaching
- ... Yields better bottomed goods.

QUADRAFOS in Penetrants for Dyeing—

- ... Gives positive removal of lime soap
- ... Permits deeper penetration of dye
- ... Facilitates dispersion of dyestuff through peptization
- ... Sequesters metallic ions in water supply.

SELL

More Textile Compounds

QUADRAFOS in Wool Scouring Compounds—

- ... Makes wool scour cleaner
- ... Lets less soap do more work
- ... Facilitates removal of lime compounds
- ... Removes more grease from wool
- ... Yields whiter, loftier "hand"
- ... Reduces card waste
- ... Produces stronger yarns.

QUADRAFOS in Rayon Scouring Compounds—

- ... Combats hard water effect
- ... Acts as powerful solubilizer for gums and waxes.

You'll find **QUADRAFOS** (Sodium Tetraphosphate— $\text{Na}_6\text{P}_4\text{O}_{13}$) a sales-builder for your compounds because this hard-working polyphosphate is a problem-solver for your customers in the textile field. At once a water conditioner, deflocculant, detergent, sequestering and dispersing agent, **QUADRAFOS** will combine with both soap and synthetic compounds to form a powerful sales-building team.

Investigate the multiple advantages of **QUADRAFOS** and give your compounds potent sales advantages.

QUADRAFOS GRANULAR is a white, free-flowing powder. It is readily soluble and sized for convenient compounding with many detergent alkalis... 95% passes a 14-mesh screen. **QUADRAFOS 30**—a white, free-flowing powder, is very rapidly soluble and is preferred for finely powdered products... 95% passes a 30-mesh screen.

Rumford Chemical Works maintains a Technical Service Department ready to help you with recommendations on the use of **QUADRAFOS** in your compounds.

Write Technical Service Department, Rumford Chemical Works, 19 Newman Avenue, Rumford 16, Rhode Island.



QUADRAFOS^{*}

Manufacturers

^{*}REG. U. S. PAT. OFF.

RUMFORD CHEMICAL WORKS

19 NEWMAN AVE., RUMFORD 16, RHODE ISLAND

Wardia



Fresh and exhilarating as the flower itself—WARDIA—
an entirely synthetic Rose character, is meeting the most exacting demands
of discriminating perfumers. Used by itself or as a replacement for the
natural Rose oil it is invaluable. A Chuit, Naef product, ample stocks
are available in this country—\$58.00 per pound—a trial ounce \$3.75.

Firmenich & Co.
135 FIFTH AVENUE, NEW YORK

CHICAGO OFFICE . . . 612 NORTH MICHIGAN AVENUE

November, 1945

Say you saw it in SOAP!



Classics

For nearly a century and a half D & O has created Perfume Classics that have established new and superior standards of quality and originality.

•
The skill and ingenuity of master perfumers...the vast reservoir of experience and the comprehensive facilities of D & O are yours...for the solution of your perfume problems.



Dodge & Olcott, Inc.

180 Varick Street, New York 14, N. Y.

Boston • Chicago • Philadelphia • St. Louis • Los Angeles

Plant and Laboratories, Bayonne, N. J.



When you buy
DISINFECTANTS

Buy **HYSAN CONTROLLED QUALITY**

**4
Hysan
Leaders**

1. **Victory Disinfectant...** a new, more potent germ killer with a gentle pine forest aroma.

2. **Duramene...** an all-purpose germicide, anti-septic, deodorant, fungicide and disinfectant. Odorless, so specified where other preparations are banned.

3. **Pergerm...** the perfumed disinfectant. Destroys noxious odors, leaves a clean floral fragrance.

4. **Mintene...** Hysan's newest disinfectant. Refreshing mint aroma forms milk-white emulsion in water. (Phenol co-efficient 5)

★ *Standard Disinfectants* Manufactured under rigid chemical and bacteriological controls.

PINE OIL DISINFECTANT . . . Phenol co-efficients 3, 4, 5

COAL TAR DISINFECTANT . . . Phenol co-efficients 2 to 20

CRESOL COMPOUND U.S.P. CRESOL COMPOUND TECH.

SANITARY CHEMICALS

Hysan

SELLING EXCLUSIVELY TO JOBBERS AND DISTRIBUTORS

Hysan Products Company • 932 West 38th Place, Chicago 9

**It's
that
important!**



Many women

carry their own toilet soap — with face powder and lipstick —
in their handbag. Why? Because they are wedded to its
fragrance . . . won't use office or powder-room soaps. Since
women are the big soap buyers, our experts have made a "survey" of
feminine tastes in soap-perfumes. As a result we have
some exceptionally fine new ones for you.

VAN AMERINGEN-HAEBLER INC. 315 FOURTH AVE., NEW YORK 10, N. Y.

The Purchasing Agent

—HE, TOO, HAS SERVED WELL



Too frequently the accomplishments of Purchasing Agents and their staffs have been overlooked in discussions of American industrial might. In emphasizing production records, Purchasing achievements in providing raw materials often are omitted . . . in praising scientific and technical advances, the ingenuity of Purchasing men in locating and obtaining scarce products frequently is unnoticed.

Yes, through long hours of diligent, resourceful work, American industrial Purchasing Agents have turned in a superlative job. In paying tribute to them, Columbia renews its pledge of continued co-operation to its customers' Purchasing Agents and their staffs as they face today's new problems and responsibilities.

COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY • COLUMBIA CHEMICAL DIVISION
GRANT BUILDING, PITTSBURGH 19, PENNSYLVANIA

Chicago • Boston • St. Louis • Pittsburgh • New York • Cincinnati • Cleveland • Philadelphia • Minneapolis • Charlotte • San Francisco

COLUMBIA ESSENTIAL INDUSTRIAL CHEMICALS

Soda Ash • Caustic Soda • Sodium Bicarbonate • Liquid Chlorine • Silene EF (Hydrated Calcium Silicate) • Calcium Chloride • Soda Briquettes
Modified Sodas • Caustic Ash • Phosphate • Calcene T (Precipitated Calcium Carbonate) • Pittchlor

To Our Friends in the Perfume, Cosmetic and Soap Industries:

You have understood our problems and borne with us during the dark days when our ability to produce has been restricted and hedged about by all sorts of war-time necessities. For this we convey our sincere appreciation.

Today the picture looks quite different. To be able to again go out and actively solicit business is indeed a pleasure after the last six hectic years.

Practically all restrictions on raw materials of domestic origin have been removed and the balance may have been eliminated by the time this is published. While it may take some time to train our new labor staff as chemical operators, we believe that we will be in nearly full production within the next thirty days.

Unfortunately, we will have difficulty for some time in securing adequate supplies of some imported essential oils used as raw materials, principally those originating in the Far East and there is a very marked scarcity of most of the natural flower oils. This situation will adjust itself we hope, as soon as normal commercial relations are established in such countries as Dutch East Indies, Straits Settlements, French Indo-China and China. Reports from France indicate very little hope of an improvement in the flower oil situation until the 1946 crop is available.

We look forward with pleasurable anticipation in our ability to serve you as we have in pre-war days, with the additional experience we have acquired and the new products and developments which have come out of our Research and Service Laboratories.

Sincerely,
GIVAUDAN-DELAUNAY, INC.


Sales Manager



"BUY WISELY...BUY GIVAUDAN"

Givaudan-Delawanna INC.

330 WEST 42nd STREET • NEW YORK 18, N.Y.

Hold that haunting fragrance!

depend on dupont **ORANGEOL N**

Looking for a fixative that's readily soluble? Du Pont announces a new product, Orangeol N—a fixative that's long lasting, almost completely soluble in 95% perfume alcohol; easily soluble, too, in aqueous alcoholic dilutions. It's a liquid fixative with a yellow tinge and mild, sweet, orange flower odor—just right for orientals, fougères, chypres, the floral bouquets, and excellent for colognes.

(Note: Try it with Astrotone BR—you'll like it!) Orangeol N is ready now.

Whatever your perfume problems, depend on Du Pont!



du pont aromatics



BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

E. I. DU PONT DE NEMOURS & CO. (INC.)

ORGANIC CHEMICALS DEPARTMENT, AROMATICS SECTION, WILMINGTON 98, DEL.
Branch Offices: Boston, Charlotte, Chicago, New York, Philadelphia, Providence, San Francisco

THEY FINISHED THEIR JOB—LET'S FINISH OURS—BUY VICTORY BONDS

Make Toilet Soap
FASTER • BETTER • AT LESS COST
 WITH THE **BONNOT**
DUPLEX VACUUM
PLODDER

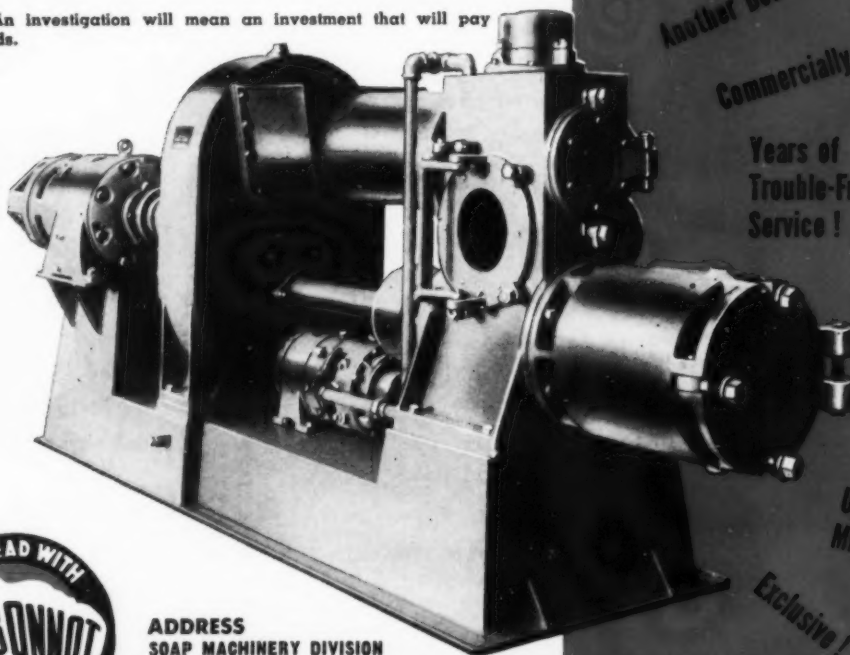
GREAT FORWARD STEP

Now full benefits of the vacuum extrusion process are available for the making of quality milled toilet soap.

The Bonnot Duplex Vacuum Plodder is the only vacuum extrusion machine on the commercial market for the soap industry—equipment built by the recognized leader in the field of vacuum extrusion processes.

Not only is the design of the BONNOT Vacuum Plodder the result of years of experience with this type of machine, but the value of the Vacuum Plodder is backed by over five years of close observation in actual production of high quality milled soaps.

An investigation will mean an investment that will pay dividends.



ADDRESS
 SOAP MACHINERY DIVISION

THE BONNOT COMPANY

Recognized Leader in the Field of Vacuum Extrusion
Serving the Processing Industries for over 50 Years

Bonnot **DUPLEX**
VACUUM PLODDER

(Patented)

WHAT IT DOES

- Eliminates many of the air problems in soap and other materials, which arise from packing, compressing or extruding in open atmosphere.
- Density, quality, uniformity, extrusion behavior are all improved.
- Superior texture and hardness of surface. Immediate wrapping permitted.
- Automatic control gives constant flow from hopper to extrusion die.
- All metals carefully chosen to protect finest quality formulas.

Another Bonnot "first"!

Commercially Proved!

*Years of
 Trouble-Free
 Service!*

*Profit
 Maker!*

*Up-to-the
 Minute!*

Exclusive!

CANTON 2, OHIO, U.S.A.



AMERICAN DISTILLED OILS

OUR 60th YEAR 1885-1945

May we pause at this 60th year milestone, to offer our sincere thanks and convey our deepest appreciation —

To those friends whom we have had the privilege of serving —

To our contemporaries in the trade from whom we have received many courtesies —

To our suppliers in foreign countries the world over —

For their valued cooperation which has made our business possible.

The mutual confidence and friendships developed through the years, since the founding of this business by Mr. George Lueders in 1885, we regard as our most cherished possession.

60 years of continuous, active service in the perfume, cosmetic, and flavor industries.

GEORGE LUEDERS & CO

427 WASHINGTON STREET, NEW YORK 13, N. Y.

CHICAGO • SAN FRANCISCO • MONTREAL • ST. LOUIS • PHILADELPHIA • LOS ANGELES • TORONTO

ESTABLISHED 1885

"G" Brand
($\text{Na}_2\text{O} \cdot 3.22 \text{SiO}_2$) Hydrated sodium silicate. A fine, soft, white powder, rapidly soluble.

"GC" BRAND
($\text{Na}_2\text{O} \cdot 2 \text{SiO}_2$) Powdered sodium silicate. Hydrated, alkaline, more quickly soluble than "G".

"SS-C-Pwd."
($\text{Na}_2\text{O} \cdot 2 \text{SiO}_2$) Hydrous powdered sodium silicate, slowly soluble, ground to pass 65 mesh.

"METSO GRANULAR"
($\text{Na}_2\text{SiO}_3 \cdot 5\text{H}_2\text{O}$) Original sodium metasilicate. U.S. Patent 1898707. White granular product, free flowing.

"METSO 99"
($\text{Na}_3\text{HSiO}_4 \cdot 5\text{H}_2\text{O}$) Sodium sesquisilicate. U.S. Patent 1948730, 2145749. White, granular and free flowing.

PQ Silicates are available in liquid or powdered grades. For your mechanical mixture detergents, here are five powdered grades.

IT'S TIME TO LOOK OVER FORMULAS

It's time also to evaluate how the use of PQ Soluble Silicates can improve the performance of your cleaners and detergents. Today, more compounders than ever before have measured the cleaning values obtainable from PQ Silicates and as a result, have adopted a PQ brand.

Revised standards of efficiency for household and industrial cleaning tasks call for these qualities—good wetting, complete emulsification, dissolving power, suspension of dirt, prevention of redeposition of dirt. All five of them are found in PQ Silicates.

In the three-quarters of a century of manufacturing silicates for the soap industry, we have accumulated a vast fund of detergency knowledge. We are ready to share it with you to solve an immediate problem or to assist you in formulating new cleaners.

PHILADELPHIA QUARTZ CO.

Dept. B, 129 South Third Street, Philadelphia 6, Pa.
Chicago Sales Office: 205 West Wacker Drive.
Nine plants and distributor stocks in over seventy cities.

PQ SILICATES OF SODA

TIME



Plastics for swanky clocks Heavy-duty pails



Cans with labels lithographed To increase product sale

ALL ARE MADE BY CONTINENTAL CAN COMPANY

It takes a lot of men and women (25,000 to be exact) to plan and make all the different products that carry the "Triple-C" trademark.

Some run high-speed machines. Some work with fast tubes. Some are engineers. Some are lithographers. And a good number (about 20%) have been fighting for us all over the world.

We hope these veterans are coming back to the Continental family, to make products for your health, welfare and happiness. Keep your eye on Continental and on the Continental trademark. You'll be seeing the Triple-C more and more in industry and in your home.

★ ★ SALVAGE EVERY TIN CAN ★ ★



Products and Divisions of Continental
100 East 43rd St., New York 17

CONTINENTAL PRODUCTS, METAL
Fibre Drums • Paper Containers
Plastic Products • Stamped Containers
Wire • Machinery and Equipment

OPERATING DIVISIONS: The
Van Wert, Ohio • River
Pittsburgh, Pa. • Boston
Rochester, N.Y. • Montreal
N. J. • Phoenix Division
Road, Denver & Colorado
Common One Montreal

EXPORT DIVISION
Company of Canada
Montreal, Canada
S. A., Havana, C.

KEEP YOUR EYE ON CONTINENTAL - FOR PACKAGING AND
Tune in "REPORT TO THE NATION," every week our first hour-long

Here's another in the latest series of Continental advertisements running in full color in America's leading magazines—*Time*, *Newsweek*, *U.S. News*, *Business Week*, *Fortune*. Keep your eye on Continental and on Continental's trademark, too! The Triple-C stands for one company with one policy—to give you only the very best in quality and service.

"The
The
proceed
lunchtime
A low
Agha. I
Agha Yal
grown on
equated
pers.
The Jan
finished on
one no co
been passed
and the ag
The Bash
others look
the door fo
voice hallo
I wish to
he produced
Go on, M
No, it's n
And it's n
The Kadi
There was
resignedly
fisherman be
the players
played them
not sleepy.
had wrinkled
sipped out
the middle of

I WAS
I back," he
"I'll wake
Mudant shou
"You are
"Oh, I'm
"Kerit"
Mudant thou
she waited at
they began
ash-ashes
one may on
on the face
the chie
able summed
over, he w
he to say th
The Bash Ag
partially abo
martyr and
I was an
Mudant -
the chiefs in
part. The pe
water pasture
after the Bash
Hakani, and
This affect
worth to Bash
they drove
I will bring
In the All
police had
the place in
bring back
all. It was
to forgiving
The Bash Ag
man and we
the car. In a
or "home," f
able, the trad
he stranger. S
Everyone got
at no one said
"Suppose we

Say you saw it in SOAP!

November, 1945

SPECIFY "GENERAL CHEMICAL"

...for better soapmaking and detergent chemicals



TODAY'S cleansing requirements call for soaps and detergents that are efficient and safe—for both domestic and industrial use. In producing cleansers that meet these demands of the day, soap and detergent manufacturers rely on General Chemical Company products . . . *quality* chemicals "proved in production" throughout the Industry.

★**Tetrasodium Pyrophosphate** . . . Helps build more abundant soap suds . . . washes clothes whiter . . . steps up cleansing action of soaps. Keeps iron salts in solution, prevents formation of "rings," helps eliminate scale formation in machine washers, and allows an increase in percentage of builders. TSPP, Anhydrous is for the soap manufacturer. TSPP, Diamond Grade is particularly suited for incorporation into detergent mixtures.

★**Sodium Silicate Solution** . . . Available in a number of grades and strengths ranging from 38° to 60° Baumé. Shipped in steel drums of 55 and 110 gallons, and tank cars.

★**Trisodium Phosphate** . . . General Chemical Trisodium Phosphate emulsifies oils and greases, removes dirt quickly and thoroughly. It is a good water softener and soap builder, and is extremely economical. Available in four grade sizes—fine, standard, medium, coarse.

★**Sodium Metasilicate** . . . A definite aid in wetting. It has a high pH, is a "buffered cleanser," suspends dirt, and softens water. Easier and safer to handle than caustic.

★**Sodium Bifluoride** . . . a laundry sour. Neutralizes the last traces of soap; removes rust stains from textiles.

Specify These General Chemical Products, Too

Sulfuric Acid • Muriatic Acid • Acetic Acid • Sodium Sulfite • Oxalic Acid
Sodium Bisulfite • Sodium Sulfate • Aluminum Sulfate • Aluminum Chloride
Disodium Phosphate



GENERAL CHEMICAL COMPANY

40 RECTOR STREET, NEW YORK 6, N. Y.

Sales and Technical Service Offices: Atlanta • Baltimore • Boston • Bridgeport (Conn.)
Buffalo • Charlotte (N. C.) • Chicago • Cleveland • Denver • Detroit • Houston • Kansas
City • Los Angeles • Minneapolis • New York • Philadelphia • Pittsburgh • Providence (R. I.)
San Francisco • Seattle • St. Louis • Utica (N. Y.) • Wenatchee • Yakima (Wash.)
In Wisconsin: General Chemical Wisconsin Corporation, Milwaukee, Wis.

In Canada: The Nichols Chemical Company, Limited • Montreal • Toronto • Vancouver

WAXES

1. DURABILITY
2. BRILLIANT LUSTRE
3. QUICK DRYING
4. SAFE TRACTION

Liquid Waxes:

Our self-polishing waxes are manufactured under the most exacting laboratory supervision and are subjected to the most rigid tests. Our liquid waxes are known for their high quality and durability. Easily applied, drying in twenty minutes to a brilliant lustre.

Offered in 2 concentrations: → SUPREME
These grades differ only in → ECONOMY
the amount of solids they contain.

Packed in drums (55 gal., 30 gal.) or 10 gal. and 5 gal. cans.
Also available in small packages (4 - 1 gal. jugs to case)

Dance Floor Wax:

A uniformly compounded, granulated wax. Makes a floor ideal for dancing by merely sprinkling from shaker top can and letting the dancers' feet do the polishing.

Packed in drums (100, 50 and 25 lb.)
Available in small packages (12 - 5 lb. cans to case or 24 - 1 lb. cans to case)

Paste Wax:

Our paste wax is a concentration of the finest waxes and gives a thicker coating with one application. This wax is quick drying, buffs easily, is waterproof and commands a high lustre on either old or new floors.

Packed in 25 lb. pails

CHEMICAL MANUFACTURING CO.
AND DISTRIBUTING
EASTON, PENNSYLVANIA

Target
TRADE MARK
REG. U. S. PAT. OFF.

JAVONELLA



Perfect for Perfuming

LAUNDRY SOAPS · WASHING POWDERS · LIQUID CLEANSERS · POLISHES, etc.

Even when Oil of Citronella was low in price and easy to obtain, JAVONELLA was a reliable favorite. A great many manufacturers preferred its finer, cleaner odor, its uniform quality and consistent economy. And now that Citronella is so high in price and difficult to get, JAVONELLA is more important to you than ever before.

Write for
Samples &
Quotations

FELTON CHEMICAL COMPANY, INC.

599 JOHNSON AVE., BROOKLYN, N. Y.

BRANCHES IN BOSTON · PHILADELPHIA · CHICAGO · ST. LOUIS · DALLAS
LOS ANGELES · SAN FRANCISCO · MONTREAL · TORONTO · MEXICO CITY

MANUFACTURERS OF AROMATIC CHEMICALS, ESSENTIAL OILS, PERFUMES AND FLAVORS



SOAP ARCHITECTS



Specialists in custom-built liquid, paste, and powder formulations for progressive sanitary supply merchandisers, including:

- Individual perfumes.
- Selective colors.
- Effective emulsifying agents.
- Appropriate merchandising suggestions.

Higher profits for you!

Write us today, outlining your requirements.

ESSENTIAL CHEMICALS CO.

Milwaukee 10, Wis.

Manufacturers of

SUPREME • SUPERIOR • MERIT • ECONOMY
LINDLEUM CLEANER • HOT-ALONG • SHAMPOO • QUICK SOLUBLE
TILE-TREAT

If your present needs do not justify special formulations, write for our profitable DISTRIBUTOR PLAN.

Look to
ESSENTIAL

CHEMICALS CO.*

*for all that's new
in Soap Products*

*Formerly Soap Division, Hercules Powder Co.

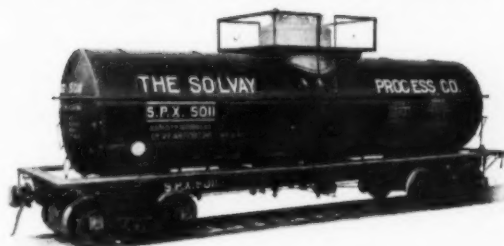
FOR QUALITY PRODUCTS

Specify



SOLVAY
TRADE MARK REG. U. S. PAT. OFF.

CAUSTIC POTASH



49-50% LIQUID in tank cars

45% LIQUID in drums

● Quality soaps and sanitary chemicals require quality caustic potash in their processing—because only a potash low in impurities better meets the exacting specifications for clear, stable products.

Solvay Caustic Potash liquid is low in turbidity. Shipped in tank cars, Solvay Caustic Potash liquid contains 49-50% Potassium Hydroxide. In drums, this clear liquor contains 45% KOH.

Whether shipped in tank cars or drums, Solvay offers prompt delivery always.

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 RECTOR STREET

NEW YORK 6, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
New Orleans • New York • Philadelphia • Pittsburgh • St. Louis • Syracuse





Cleaning comes first with the "Flooradora Boys!"

SCRUBBY • MOPPY • RINSEY • WAXEY

GIVE A LISTEN to what the Moppy member of our Flooradora contingent says about his work.

"To the casual observer it might look like I'm a frigid character indeed. Actually, I'm as susceptible to the beauties of nature as the next guy. But it's hard for a craftsman like myself to tear himself away from a dirty floor—especially when Davies-Young Supplies, which are murder to dirt and grime, are on hand. But look! I'm practically through. So stick around, will ya, sis?"

Buckeye Liquid Scrubbing Soap is for use on

all surfaces that require a neutral soap to clean • Sani-Scrub was developed particularly for cleaning rubber, rubber tile, asphalt tile, composition, mastic and cement • Florex is a balanced detergent, lower in soap content than Sani-Scrub • No. 30 is a neutral concentrate 30% to 32% anhydrous • Ex-Alk Liquid Cleaner (non-alkaline) is designed for thorough and economical cleaning • Beamax is most effective in developing a protective lustrous film on all types of floors, after floors have been prepared by the right type of Liquid Scrubbing Soap.

BEAMAX • BUCKEYE • SANI-SCRUB • FLOREX • NO. 30 • EX-ALK

It is imperative that all floor surfaces be properly prepared for wax treatment by use of the above scrubbing soaps where their specific qualifications are required. Send for folder which gives complete information.



The Davies-Young Soap Co.
DAYTON, OHIO



For a cleaner world...

SULFRAMIN *

In a world that grows cleaner every day, more and more manufacturers are choosing Sulframin as the vital ingredient. Because of its unusual properties Sulframin is the logical detergent choice of manufacturers of all types of cleansing compounds—from Bubble bath for Milady to boiling-off solutions for the textile industries.

Sulframin owes much of its general acceptance to various qualities. For example, it resists the chemical action of lime, magnesium salts, acids and alkalis. It amalgamates readily with trisodium phosphate and sim-

ilar cleanser ingredients. The superiority of Sulframin is especially evident wherever the use of hard water is unavoidable. Sulframin is available in our standard liquid, paste and powder formulas—or tailor-made to fit your requirements. In any form it has maximum effectiveness.

In a world growing cleaner every day, you—as a manufacturer of cleansing agents—will want to know all there is to know about Sulframin. If you will write or wire us today, an Ultra technician will be glad to go over your formulary problems with you.

** Chemically classified as an alkylaminosulphate.*

ULTRA CHEMICAL WORKS

INCORPORATED

Paterson, New Jersey • Chicago, Illinois



OTHER ULTRA CHEMICAL PRODUCT DEVELOPMENTS:

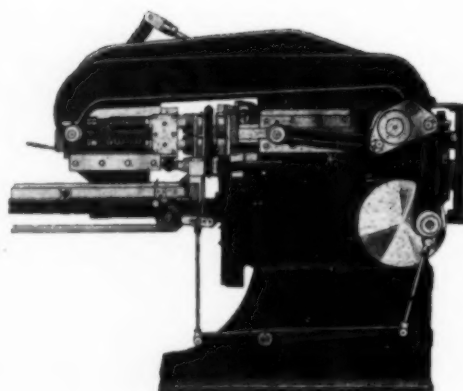
DDT PRODUCTS • INSECTICIDES • CLEANSERS • MOTH PREVENTATIVES • WAXES



Remember Old Black Joe, whose head was bending low? Perhaps one of your soap presses, also, is growing old . . . can no longer do a really good job. Even a Jones Soap Press won't last forever. And an over-age press will handicap your product with poorly formed letters and design.

So why not invest now in a new Jones Toggle-Operated Soap Press? Toggle operation permits a longer dwell, giving superior lettering and a firm, well-pressed cake. And with the latest Jones model you benefit from improvements added during the past few years.

For full information, write us today.



R. A. JONES AND COMPANY, INC.

P. O. Box 485

CINCINNATI, OHIO

FOR the potash soap industry, the time has come to look a gift horse in the mouth. The average potash soap manufacturer is, in fact, a specialty manufacturer and not a soap manufacturer in the sense of ordinary toilet and laundry soaps. The rank and file of potash soap manufacturers are small companies. They do not sell in small packages as a rule or through the usual retail channels. Outside of using certain raw materials in common with the soda soapers, their road travels through a land completely foreign to bar soaps, flakes, chips and powders.

Because so many of the problems which confront the average potash soaper are different, those who have been members of the Association of American Soap and Glycerine Producers have during the past few years banded together as a separate section within that association, holding special meetings and considering problems characteristic only of the potash soap business. Among other things, they have discussed the possibility of a program to further the interests of all potash soapers, to expand the uses of their products. They have displayed a commendable spirit of progress, but in laying their plans, they have so far ignored one important feature,—the cost.

Even though the number of potash soapers is comparatively large, individually they are mostly small companies and as such, their dues as members of the soap association are strictly of the token variety, something like ten dollars per year in most cases. For all practical purposes, this means that the potash soapers are "Annie Oakley" members and that they are getting a free ride in soap association affairs at the expense of the larger soapers whose higher dues actually pay the freight. Accordingly

it would seem that if the potash soapers desire to undertake a separate program to advance their interests, they should finance the cost themselves either as a completely separate group or by substantial financial support of the work of the potash soap section.

For some time, this has been the view held by a number of the leaders among the potash soapers. But the rank and file of smaller firms appears content merely to ride along without voice or vote just so long as the cost is negligible. Thus, until they are ready to pay for what they want, we cannot see how they are entitled to any special services or to play any other part than that of "window dressing."



OFFERS for copra from the United States, reported from Manila to be sixty pesos per ton, are stated to be below cost of production at the present time in the Philippines and far below the figure of offers received from prospective purchasers outside of the U. S. At the same time from Quebec where the United Nations Food and Agriculture Organization Conference was meeting, the Philippine member attending issued a statement protesting that thousands of tons of copra are going to waste in the Philippines through present inability to gather and ship the material.

While the question of copra and coconut oil is debated pro and con, American soapers find themselves still critically short of oils and fats, sadly in need of any and all coconut oil which can be rushed to the soap kettles. This in itself, we feel, should be the cue to handling the entire copra situation. Get the copra here to be crushed. If we of necessity must pay a higher price owing to

the present situation in the Philippines, pay it,—but **get the copra**,—and quick! By all means, the OPA should keep its hands off in the present critical shortage, because if it interferes, it will as sure as shooting gum up the parade.

To repeat once again,—the food and soap industries of the U. S. are in dire need of coconut oil **now**. Some of that direct action which characterized the movement of materials during the war might well be applied. Let's cut the red tape and start to get in the copra!



BECAUSE even Congress is now convinced of the vitally important role played by scientific research in winning the war, these projects originating in the U. S. Senate providing for a broad government-financed and government-directed research program in the interest of the national defense, health and welfare have been receiving deep and serious consideration in Washington. That the atomic bomb has fired the imagination not only of the American people generally, but of Congress as well, is quite apparent. And the magnitude of chemical and electronic developments inspired by the necessities of war have added their weight. The long-whiskered researcher of yore buried in his laboratory, always unheralded and unsung, has at last come into his own. The practical value of his delving deep into the caves of pure science has been demonstrated. Science paid large dividends in winning the war,—and the American Congress and people are very fond of dividends. Hence, their obvious willingness to invest further in science.

If a single, centralized research agency of the U. S. Government can carry on the type of research which was so successful during the war, its contribution to the public good could be almost unlimited. But can it remain free of politics, can its researchers work without fetters, will it stagnate lacking the impetus of a war and deteriorate into

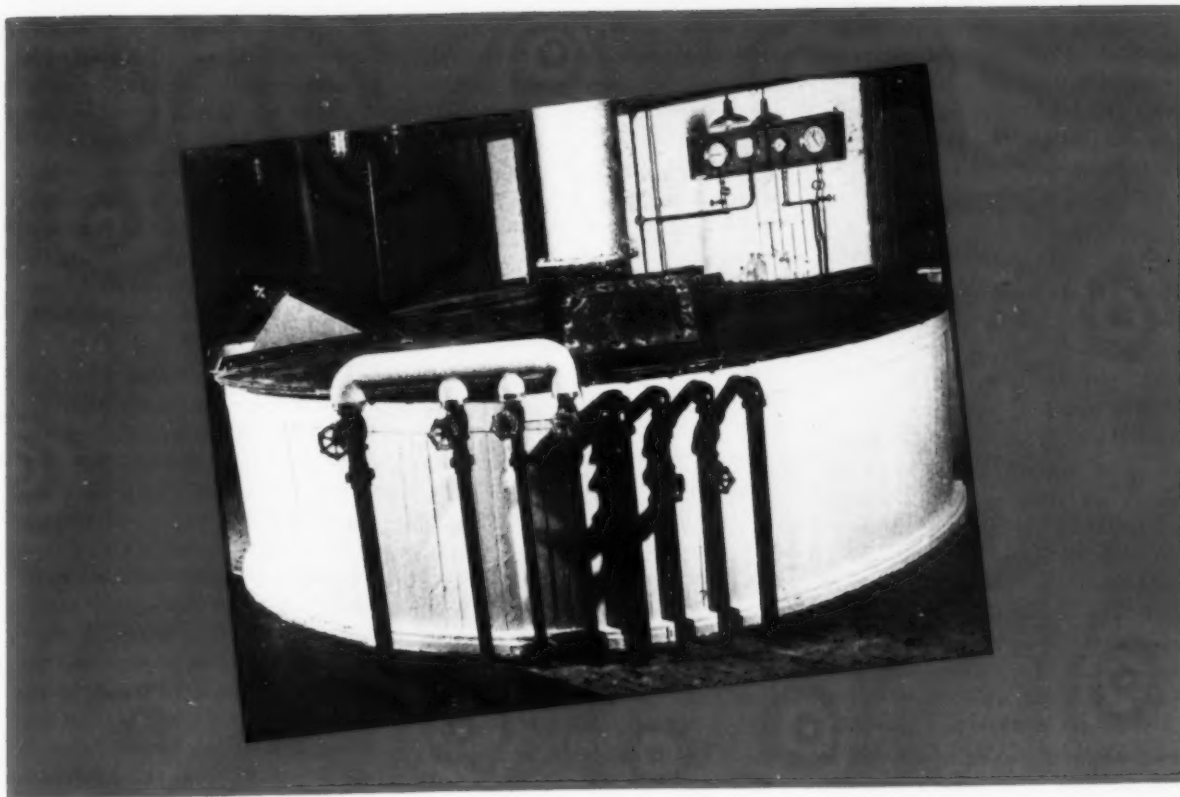
boondoggling? Big thoughts and big words flow freely today with the results of war research fresh in our memories. But what of a few years hence? And what of independent research, the work of the large chemical, electric, and other companies,—of the universities, foundations, USDA, and state agencies? What will be the effect on them?

All these are pertinent questions which bring to mind the thought that the unified research efforts of a nation, both private and government, directed to the common defense of a nation at war are one thing. The numerous and widely diversified research efforts of a country at peace, including a large government project, are different,—sufficiently different in our belief to account for a continued enthusiasm for private and individual research which we do not feel for a centrally-operated government agency.



HOW much money will the average soaper put into new equipment over the next year or two? The answer to this question is probably best found in another question,—how long is it going to take him to get his money back from new equipment and to write it off? The feeling seems quite general that there is a large potential demand for new soap equipment, that many manufacturers have rather definite plans to install new machinery of one sort or another if some sort of accelerated depreciation,—say over a five-year period,—will be permitted by government tax moguls.

Lacking this, many soapers and especially smaller units in the industry will hesitate on any sort of extensive plant replacement or expansion until the tax picture is clearer. A plan for speeding up the rate of depreciation announced now would give them the assurance which they seek, and would provide a substantial backlog of industrial expansion to guarantee jobs for the years ahead.



Soap Plant Layout

BY

Dr. E. G. Thomssen



CHANGING conditions during the war years have been reflected in the appearance of new brand names for various commodities of which soap is not the least. The other day our home ran out of soap chips and laundry soap as is so often the case in these days of soap scarcities. Not a carton or bar of the well known kinds could be bought at the usual sources of supply. We started out to visit outlying stores, in a search for standard brands of soap which became very interesting. Instead of finding them we found a motley lot of unknown brands of soap and soap substitutes. By the time our expedition was over we had travelled about thirty miles and had gotten into some smaller

village stores which seemed to be better supplied than the city and chain stores. Only one box per customer was permissible, but at least we obtained some soap. We did not wait for the radio announcer to tell us to call and call again if the favorite brand is not available.

The point to be made here is that during the existing soap shortage, smaller soapers are finding it easier to sell their wares. They, too, are operating with restricted oil and fat quotas, but with a seller's market at hand, are able to clean up old stocks and make better progress than in normal times when the storekeeper hesitates to sell any but well advertised soaps. Anyone entering the soap business or trying to, when normal conditions pertain, finds

it most difficult to sell. Now that advertised brands are short, however, the shopkeeper begs for almost any type of soap or soap substitutes to fill the void.

Many of these smaller soap makers, incidentally, hope to hold a considerable portion of their present market and are preparing to or are already remodeling their plants to increase their efficiency or to put out a larger volume. Some are seeking to purchase larger plants. There is real activity in this field and will be for some time to come.

It is quite often the case that these smaller soapers who have not planned well at the start now find their plants ill adapted to carry out quantity production efficiently. While it is not possible in an article like this to make

a definite layout for small plants without knowing all the conditions and having actual plans of a building, certain hints may be presented as a guide in selecting a building for and laying out the equipment of a small plant.

To follow through with this idea, it is well to break down the installation problem into several parts. These are, the buildings, handling of raw materials, kettle or soap boiling arrangement, soap finishing department, glycerine recovery, and finally finished goods storage and shipping departments.

In visiting the smaller soap plants, one often sees the dirtiest of establishments. It is to be wondered that soap can be made at all under such conditions. The cause in practically every case is that the building is not adapted to the operation. With many buildings used for wartime production being abandoned with the slowdown after the war, it would be a good economy whenever possible to abandon an old unsuitable plant rather than to try to rearrange it. In selecting a building for making any type of soap, at least a three story with basement building is advisable. Four stories are even better. Mill construction buildings with wooden floors are to be shunned. They can never be kept clean. Reinforced concrete buildings with the floors proofed against fatty acids are the most desirable. Live floor loads of at least 150 pounds per square foot are necessary. A one story and basement building or ell close to or adjoining the main building to handle the fats and oils is a decided advantage. High ceilings in the kettle room to permit better dispersion of the steam is an advantage. The building should include good boiler equipment, with boilers operating at 100 pounds pressure and of ample capacity to carry overloads for a short time. The HRT type boilers are very satisfactory for small soap plants. In certain parts of the building it should be possible to support soap kettles. These are most advantageously installed so they pass from the second floor downward. The basement of the building should be of ample height, not less than 10 ft. is advisable. An oblong building about twice as long as wide

permits the most advantageous installation of the machinery and kettles. Plenty of yard room and a railroad siding are obligatory. Location away from residential sections so as to be able to make plenty of "soap odor" must be considered. Other considerations like light, office space, elevators, heating equipment, sprinkler, must not be lost sight of. In too many cases buildings are selected just because they are cheap. It really costs more in the long run to remodel an undesirable building as a soap plant than it does to build an entirely new one, if an adaptable older plant is not to be had.

THE raw materials that enter into the actual composition of soap are oils, fats, rosin, alkalis, salt, builders, perfumes, colors, and certain other chemicals for specialty soaps. Of these, raw materials, oils, fats and rosin are the most difficult to handle so as to keep clean the locations which they occupy. For this reason it is good practice to handle these items in a separate building. Fats and oils come in barrels, casks, iron drums, tank trucks and tank cars. The last two are the most satisfactory to handle as they are merely heated to steam them out and then run or pumped to suitable storage tanks. These tanks may be installed in the basement of the building or in the yard.

The practice of burying tanks or using partition tanks is not to be condoned. Tanks do have a habit of leaking and it is advisable to install tanks so they may readily be observed if a leak should develop. The best practice for piping from storage tanks which include melting coils is to use three way cocks on all ingoing and outlet lines to prevent freezing of the fats in them. Steam blowouts for pipe lines are necessary. For melting out barrels, casks and drums, melting-out troughs to handle at least four at a time are desirable. As live steam is used for this purpose much steam enters the molten fats so they should be settled in properly installed tanks to free from water before being put into actual storage. This is also advisable for proper subsequent handling unless the fats are sent directly to the soap kettle as they are melted out.

For the handling of rosin several methods are used. The simplest is to break it up in a space set apart by itself so it may be kept clean. Another is to mount a grid on the floor above the soap kettle, to pound it through and slide it down a covered chute into the kettle. In still other cases, the rosin soap is made separately, using the cheaper carbonate for neutralization and pumping over the desired quantity of rosin soap.

Alkalis come in flake form, in solid form and as liquids of about 50° Baume. The most satisfactory way to handle alkali is to pump from tank cars in liquid form. Here again the cars must be steamed in cold weather. If drums are handled, proper lifting equipment and solubilizing tanks are required. As these lyes usually require subsequent dilution, a good arrangement is to store the concentrated lyes in the basement and pump from here to the third floor for further dilution. Where flake caustic is used, which is not frequently, it may be dissolved at the location most suitable to the point at which the lye is to be used. In installing lye lines self lubricating stop cocks are advisable because of the tendency of such valves to stick. Black iron tanks and piping are quite satisfactory in making lye handling installations.

Soap "builders" consist of silicates, soda ash, phosphates and borax. The product most commonly used is silicate of soda. This may be had in iron drums or tank cars. As it flows quite readily it may be emptied from drums or pumped from tanks with facility. Drums take up a lot of space so these may be stored in the yard or emptied into a storage tank for further handling. As silicate of soda forms hard, difficult to remove, thick coatings on surfaces, it is well to keep it in a limited space by itself and clean up any drippings, using a little lye if necessary, as soon as possible. The other builders are all water soluble powders and may either be dissolved in hot water or be used in dry form.

Salt requires but passing mention. Some soap makers use it dry, others make a brine solution. As salt comes from the glycerine recovery

plant, it is well to have salt dump trucks so the dry salt may be stored at convenient places. If brine is used, arrangements are usually used whereby the brine is made in shallow tanks and pumped to a storage tank above the soap kettles. Salt of course is used in the making of full boiled soaps and recovered at the glycerine evaporator.

THE actual making of the soap is carried out in the smaller soap plants by various processes. Many smaller soap plants make only potash soaps. To cover these various operations briefly, we will break down the saponification process installations into two categories, i.e., cold made soap equipment and full boiled soap equipment.

The equipment for the making of soap by the cold-made process also suffices for the semi-boiled process and the making of soft or potash soaps. The manufacture of soap by this process is far simpler than by the full boiled process and hence requires less complicated equipment. This consists of crutchers for combining the fats or fatty acids with the alkali. Frames, slabbers, cutting tables and presses are further equipment necessary if bar soap is to be made.

Crutchers come in various sizes and are usually regulated in capacity by the number of frames of soap to be made. The ordinary frame holds about 1200 pounds of soap. Ordinarily the smaller soaper prefers to make 1200 or 2400 pound lots of soap. The crutchers are either installed through the floor of the second floor or may be supported from a mezzanine if the floor height is sufficient for head room. The outlet from the crutcher should not be too high above the top of the frame so as to prevent spattering when the soap mass is discharged. The usual type of crutcher used is a vertical mixer of the reversible screw and thimble type. If the expense of the equipment can be borne and especially if fatty acids are used, it is convenient to have stainless steel construction. This is also true of tanks for storing fats and fatty acids.

The soap frames, slabbers, cutting tables, drying racks, dry rooms and soap presses are standard equipment for making bar soaps. The impor-

tant point here is to cut down the scrap soap to a minimum as the remelting or rehandling of this is usually a problem. It is necessary to set the wires on the slabber and cutting table, so as to have a minimum amount of scrap soap. If white soap is made, it pays to line the sides of the frames with heavy white cloths before filling them. This reduces rust discoloration and makes them strip more readily. If cold-process type soaps are made, it is a good dodge to run the frames into a hot room for the first 24 hours. This reduces very materially the crater atop the frames that so often results in much waste. All of the handling of soaps of this kind after slabbing should be in an airy portion of the plant to facilitate the subsequent operations.

For the making of soft soaps and liquid soaps, less equipment is required. It is possible to use the same crutchers for these types. Facilities for handling these soaps are different and in the case of liquid soaps clarification apparatus is necessary. This is done by filtering after cooling through refrigeration, by long time storage or by the addition of clarifying agents.

THE making of full boiled soaps involves a more expensive plant than the soaps just touched upon. Kettles, chip soap dryers, mills and plodders, soap presses, glycerine recovery apparatus and allied equipment are all in question. When a soaper begins to make full boiled soap, he is graduating from the class of a small soap maker. Unless his capacity is large or his profits warrant it, such a plant should have most serious consideration. Of course, if he just wants to make soap chips, or a laundry or floating bar, the problem is simplified. We will discuss briefly the apparatus used for this method of soap making.

Soap kettle installations are usually made on the second story of a building. This facilitates the installation, the charging of the kettles and the handling of the soap. As much condensed steam is emitted by this process, it is advantageous to have good ventilation or an exhaust system in the kettle room, especially in cold weather. Stainless steel kettles are preferred if

white soaps are made. This is also true of the open coils for boiling the soap. In making soap kettle installations for full boiled soaps, it is very desirable to employ a capable chemical engineer as the pitfalls are numerous and to a large extent met with on the particular jobs under consideration. The subsequent handling of the boiled settled soap and glycerine recovery plant requires an intimate knowledge of soap making operations which can hardly be outlined in one article like this.

The finishing of settled soaps depends upon the end product desired. For soap chips, crutchers for incorporating the builder into the soap base, drying machines and packaging machines are necessary. For the making of laundry bars, either frames, cutters, etc., are needed for the conventional method or for the continuous process specially designed refrigerated equipment may be used. For floating soap either crutchers, frames, slabbers, etc., are used or if patents can be circumvented special equipment that is more or less continuous and produces a superior type of soap is employed. For milled soaps or toilet soaps amalgamators, mills, plodders, cutters, presses and wrapping machines are essential machinery. It is hardly possible to do more than to mention these in our consideration.

The recovery of glycerine may be considered from two angles. First, the fatty acids may be split off the fats and oils and then made into soap and second the glycerine is recovered at the soap kettle during the full boiled process by salting it out. In either case, it is necessary to concentrate the solutions or lyes obtained by these saponification processes. This is done in suitably designed vacuum evaporators which remove the water and, in the case of spent lyes, segregate the salt as well. The glycerine content of the crude glycerine obtained therefrom runs between 80-90 per cent. Higher grades of glycerol require distillation apparatus. It does not pay for a small soaper to consider the recovery of glycerol unless his fat and oil consumption is a minimum of about a million pounds annually. In war times

(Turn to Page 71)



IN days gone by, when the cost of soap loomed large on the family budget—especially in hard water areas—it was common practice to add various substances to water to "save" soap. Today there is revived interest in such compounds. Housewives are learning again that water softening salts not only serve to extend available soap supplies, but offer many other advantages as well.

This renewal of interest in water softeners is, of course, largely attributable to several war-born factors. Primarily it is due to changes in soap composition caused by fat and oil shortages, especially of suds-making coconut oil. The more extensive inclusion of rosin and the current order requiring the use of alkaline builders in certain types of household soap products are reflections of such deficiencies, which still persist. Vaguely appreciating some of the reasons for the difference in performance between pre-war and present day soaps, women have turned to water softeners to improve washing results and, in many cases, to eke out meager supplies of laundry soap flakes and chips. Whether the current trend will persist is conjectural, but the fact remains that there has been created a new and large market for efficient water softeners.

In the use of water as a cleansing agent, the presence of dissolved mineral salts is an important consideration since these impurities form insoluble compounds with soap and prevent the latter from exercising its cleansing action. These dissolved impurities are responsible for water hardness. Formerly hardness was expressed in degrees or grains per gallon, but it is now more generally described as parts, calculated to calcium carbonate, per million parts of water. Although it has been said (1) that hardness below 60 parts per million is scarcely noticed in ordinary household use, many public water supplies have hardness ratings up to 100 parts per million. With such waters, satisfactory home laundering can be done by adding softening chemicals before using soap or by washing with soap contain-

WATER SOFTENERS

BY

Milton Lesser

ing such softening agents as builders. (2) Of course, in the many areas where hardness exceeds this figure, the need for softening means is quite obvious.

Water hardness is of two kinds; temporary and permanent. Temporary hardness, commonly caused by bicarbonates of calcium and magnesium, can be removed by the simple process of boiling. Permanent hardness, generally attributable to the sulfates, chlorides and nitrates of calcium and magnesium, does not respond to boiling, but is removed only by distillation or chemical treatment.

The plain dollars and cents value of soft or softened water is known to both the housewife and industrialist. Scientific investigations have shown the cost of hard water in terms of soap consumption. About ten years ago, for example, Hudson (3) estimated that soap consumption is roughly directly proportional to water hardness; showing an annual per capita consumption close to 50 pounds in districts with very hard water, and scaling down to about 29 pounds in areas with moderately hard water.

Aside from rendering soap ineffective as a detergent, the insoluble soaps formed by the reaction with calcium, magnesium and other salts cause further detrimental effects. Often much of the insoluble soap, together with some of the suspended dirt and soil, may be deposited on the fabric

being washed. A more or less uniform precipitate results in a dull, dingy look, while deposition in spots or globules produces so-called soap or grease specks. Then, too, one cannot overlook the ring around the bathtub caused by the deposition of insoluble soap curds.

It is not so many years ago that comparatively few chemicals were available for household washing to reduce or remove water hardness. (4) To the old standbys like washing soda, borax and ammonia compounds, a number of newer compounds have been added, including several valuable phosphates. Far from being relegated to limbo, certain of the older type water softeners have continued to find quite extensive use, often as combinations with more recently developed compounds. Such mixtures, it has been found, often provide more efficient water softeners. Of course most of these materials impart decided cleansing action in addition to their water softening effects.

AMMONIA solutions are among such materials and a bottle of "household" ammonia is to be found in almost every kitchen of the nation. Sometimes added to the water used for washing clothes to aid in water softening, such solutions are frequently employed in washing glassware and the like to assure clear rinsing and streak-free sparkle when dry. So-called "powdered ammonia" products have a

well-established market of their own. Serving as cleansers and as detergent aids in conjunction with soap, such items generally consist of a simple mixture of an ammonium salt or mixture of such salts with sodium carbonate. Illustrative is the following formula(5) for making powdered ammonia.

Light soda ash..... 8 parts
Ammonium carbonate 2 parts

Borax is another familiar water softener with many staunch supporters, who laud its many uses about the house. Valuable alone, it is often combined with other useful chemicals to form water softeners for the laundry and bath, as in the following example: (5)

Sodium carbonate
(monohydrate) 10.0 parts
Borax 1.0 part
Powdered alum 1.0 part

Sal soda, the washing crystals or soda crystals familiar to our grandmothers, is sodium carbonate combined with 10 molecules of water of crystallization (e.g. $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$). Not so widely used in modern households, it enjoyed the reputation of a useful water softener and detergent. Soda ash, the anhydrous form of sodium carbonate, has a substantial reputation as a water softener, soap builder, detergent aid in laundering, and as a cleanser where a moderately strong alkaline material is desired.

More widely used are so-called modified sodas, better known to generations of housewives as laundry soda or washing soda. Such modified sodas are mixtures of varying proportions of sodium carbonate and sodium bicarbonate; the latter insuring the absence of caustic alkali. One modified soda, sodium sesquicarbonate, is much favored as a raw material for bath salt manufacture. According to MacMahon,(6) the outstanding feature of the modified sodas is the high degree to which solutions prepared from them are buffered at a relatively low pH. For this reason, he states, modified sodas are safe to use even on those types of fabrics adversely affected by stronger alkalies.

Not so familiar to the general public but warranting attention as water softeners are the various silicates. Sodium metasilicate is an

especially valuable member of this group; having many important industrial applications.(2) Known for its rapid solubility and alkalinity, there is evidence that it is of value in the laundry. Russian investigations(7) of special agents for water softening and clothes soaking showed that mixtures of anhydrous sodium carbonate and sodium metasilicate were the best water softening agents of all those tested. Nearly as good results were obtained with trisodium phosphate and its mixtures with sodium carbonate and sodium metasilicate. Sodium metasilicate, it was reported, inhibits the yellow discoloration of washed clothes and the precipitation of iron compounds.

Of interest in this connection is a patent(8) owned by a large manufacturer of washing machines for the home, covering metasilicate-containing water softening compositions. According to the specifications, from 50 to 85 per cent of sodium metasilicate is used in admixture with 15 to 50 per cent of sodium carbonate in making these compositions.

With an excellent reputation as a versatile alkaline cleaner, trisodium phosphate is classed as a good, economical water softener. Speaking from the viewpoint of the laundryman, MacMahon(6) has said that trisodium phosphate is perhaps the best water softener of all the alkalies available. This, of course, is a matter of opinion, but it is a fact that many washing powders on the market consist of trisodium phosphate or mixtures of this material with soda ash, borax, soap and other detergents.

THE last decade or so has witnessed the development and exploitation of a number of molecularly dehydrated phosphates such as sodium hexametaphosphate,(9) tetrasodium pyrophosphate and sodium tetrakisphosphate.(10) Already widely employed in machine dishwashing compounds,(2,11) these substances have established their usefulness as water softeners for a number of household applications.

For a number of years sodium hexametaphosphate, a polymer of sodium metaphosphate, has been find-

ing growing acceptance as an efficient water softener because of the unusual way in which it acts to condition or "normalize" hard water.(12) Possessing certain detergent and emulsifying properties, this compound is of special interest because of its ability to form "soluble" compounds with the calcium and magnesium salts responsible for water hardness and to dissolve calcium and magnesium or lime soaps, thereby regenerating soda soap and preventing the deposition of insoluble compounds or "scum" on the objects being cleaned. Of course, water treated with sodium hexametaphosphate does not leave an objectionable insoluble soap ring on tub or wash basin. Put another way, it may be said that hard water to which a sufficient quantity of this phosphate has been added no longer contains free calcium or magnesium ions and such water is considered to be "soft."

It is quite well established that large quantities of calcium salts can be kept in solution by means of quite small proportions of this compound.(13,-14) Methods for making more rapidly soluble sodium hexametaphosphate granules have been described in the patent literature.(15) Where required, the action of the hexametaphosphate may be supplemented by admixture with alkaline detergents to meet specific conditions.

Tetrasodium pyrophosphate is another comparative newcomer that has attained a good reputation as a water softener.(16) Available in crystalline and anhydrous form, the latter being used chiefly for soap building, tetrasodium pyrophosphate effectively prevents the formation of scum, "rings" and curd, keeps iron salts in solution, augments the cleansing action of soap and steps up lather formation. In a discussion of this material a few years ago, Treffler(17) reported that tetrasodium pyrophosphate remains unchanged during boiling and that its water softening and detergent strength are improved by alkalies. The phosphate, in turn, improves the water softening and emulsifying properties of the alkalies. The addition of even a small amount of tetrasodium pyrophosphate improves alkali action considerably. Tests with a number of

standard alkalis showed how effectively the presence of this phosphate increased suds formation with soap.

The conjunct use of tetrasodium pyrophosphate and alkali results in economical and efficient cleansing agents. One product, almost a "universal" cleanser, excellent not only for glassware and dishes, but for laundries as well, is described by Treffler as consisting of:

Soda ash	42 parts
Tetrasodium pyrophosphate ..	42 parts
Sodium bicarbonate	15 parts
Anhydrous soap powder.....	1 part

Sodium tetraphosphate, described as a versatile polyphosphate, also works effectively as a water softener; its use for this purpose being patented.(18) Acting as a detergent, deflocculant, dispersant and water conditioner, it prevents the formation of graying deposits on fabrics, steps up the efficiency of soap in general household uses and facilitates cleansing. Said to be safe with fabrics and harmless to metals and the hands, sodium tetraphosphate may be conveniently compounded with many detergent alkalis.

AS mentioned above, it is quite a common practice to combine various salts to obtain products with improved water softening, soap saving properties. A number of such mixtures are available in the technical literature and especially in patent sources. A noteworthy trend is the use of cakes or blocks of water softening materials. Of particular interest in this connection is a patent(19) describing a water softening material in cake form; the cake being so designed that it may be placed in a container such as a water main by-pass. Water entering and leaving this container gradually and progressively washes away the water softening cake. By this means the water entering a home or other building is automatically treated to decrease its hardness. The cake itself is formed from colloidal clay, sodium silicate, sodium carbonate and borax. Obviously such a set up would be quite advantageous in homes where cost or other factors prohibit the installation of zeolite or other "exchange" water softening systems.

Other kinds of shaped or compressed water softeners have been described in patent specifications. In one case,(20) water softening cakes for domestic use are made from:

Sodium carbonate	62.5 per cent
Trisodium phosphate	30.0 per cent
Calcium chloride	5.0 per cent
Sodium chloride	2.5 per cent

In another instance,(21) blocks for softening water may be made by casting a fused mixture of sodium carbonate and borax in suitable molds. If desired, sodium aluminate may be used as an additional ingredient, as in the following example:

Soda ash	75 parts
Borax	10 parts
Sodium aluminate	15 parts

In a more recent patent(22) a method is given for making hard, slowly soluble water softening briquets. These are produced by cooling and allowing to set in molds, a hot slurry containing:

Soda ash	80.20 parts
Sodium aluminate	10.26 parts
Trisodium phosphate	5.58 parts
Water	57.00 parts

BATH salts are a special kind of personalized water softener provided as crystals, powders or blocks. Considered a luxury by some, these products nonetheless combine the pleasure of perfume and color with the practicality and comfort of bathing in soft water, free of insoluble particles and without the need for scrubbing away the unsightly ring on the tub. The market for bath preparations of one kind or another is a large and stable one, and according to Chilson, (23) bath salts are the largest selling items in the group of products. As remarked by Auch,(24) bath salts have aesthetic appeal and serve the very useful purpose of softening the water and making the bath more refreshing. They tie in very effectively with toilet soaps, aid their detergent action and help them to lather more readily and profusely.

Over the years, the requirements and standards for bath salts or crystals have been listed by a number of writers(25,26,27) and, with minor variations are still essentially the same. Those given by Harry(28) are quite

indicative. In his opinion bath crystals should (a) effectively soften water, (b) possess an attractive appearance, be stable under ordinary climatic conditions and be easy to color and perfume, and (c) be reasonably inexpensive.

With these requirements as a basis it is possible to consider the raw materials used in making bath salts. Omitting for the moment the requisite coloring and perfuming agents, the basic materials are essentially the same as those used in making regular household water softeners. Crystal size and appearance are important in bath salts, however, and consideration must also be given to the possible effects of such compounds on the skin.

The various salts may be used singly and in combination to make the bath bases. Much has been said about the advantages of various salts. A good deal of this information has been summarized concisely by Kalish (29) in his comprehensive article on bath salts. Sodium carbonate, he notes, is available in three forms, as the anhydrous ash, crystalline monohydrate, and the decahydrate or washing soda. The first is but little used in bath salts, but washing soda, available in many crystal sizes, is cheap and popular. It dissolves rapidly and completely in water. However, it is not completely stable and loses moisture in a dry atmosphere; the surface of the crystals being transformed into the white powdered monohydrate. This may be overcome to some extent by the use of an air-tight container and a coating of glycerine as a hygroscopic agent. More distressing is the fact that washing soda crystals melt and dissolve in their own water of crystallization at summer temperatures, making an unsightly caked mass in the container. The monohydrate, free from these disadvantages, is available in a range of crystal sizes which dissolve quite readily.

Trisodium phosphate, also an effective water softener, shares the disadvantages of washing soda. Both trisodium phosphate and the various types of sodium carbonate are considered too alkaline to be classed among the best compounds for bath use—an opinion

(Turn to Page 38)

Control of AQUATIC WEEDS

By Arnold H. Haverlee

Cloroben Corp.

SINCE man first began to use irrigation systems to water his fields, weed growths in canals and ditches have presented a troublesome problem. Methods commonly used a few years ago were ordinarily either mere temporary expedients, or if the effects were more lasting the cost was often too high. Chaining provided merely temporary relief, while drag-lining or dredging, while more effective, was often too expensive. Approximately two years ago a new method employing a product* based on chlorhydrocarbons was tried out in Southern California. It has proved to be quite practical and successful. The material is applied in the form of an emulsion. It causes the vegetation in the water to collapse and disintegrate soon after application, and the fragments of debris are readily carried away. It is said to be sufficiently economical both in cost of material, and in use of manpower, for fairly widespread use.

W. E. Hartzog, superintendent, Water Distribution and Drainage Construction, Imperial Irrigation District, Imperial, Calif., supervised tests of the new method during the 1943 season on the 3,000 miles of canals and drains of the Imperial Irrigation District. Experimental work showed the material to be effective in the removal of Potamogeton, Chara, Horned Pondweed, Spiny Ned and Tules. Tests were also conducted the same year on the Blythe and Yuma irrigation systems in the Colorado River watershed. Previously the material had been tested in lakes and ponds in the eastern part of the country for a period of several years.

* The material used was "Benoclor," a product of Cloroben Corp., Jersey City, N. J. Three formulae are available, Benoclor No. 3 regular, Benoclor No. 3 special and Benoclor No. 3-c. The first is particularly adapted for use in static water and the latter two for running water.



Cleaning up growths of aquatic weeds and prevention of regrowth have long been serious problems in the maintenance of irrigation systems, canals, etc. Typical weed growth in an irrigation ditch is shown below, while the picture on the facing page shows the appearance several months after treatment. Regrowth is delayed or retarded, the exact period of control depending upon many variable factors. Photos. from Cloroben Corp.



This particular weed killer is described as a clear, colorless liquid, non-toxic to animal life and capable of being handled safely in the field without special equipment. It is said to present no threat to livestock or birds, and to be harmless to crops or canal bank vegetation. Fish appear to be susceptible, however, and where the fish are valued the material must be used with caution. Crayfish and clams are said to be eliminated by this treatment.

Equipment required for application consists of a stirrup pump, 20 feet of flexible hose, 6 ft. of $\frac{1}{4}$ in. pipe and a fine spray nozzle with 20 to 40 thousandths opening. The material is pumped from a container on the canal bank to the spray nozzle which discharges into the stream under 60 lbs. pressure. Two men are needed for the application, one handling the pump and the other the spray nozzle. The material is injected into the stream 4 in. under the water surface and the nozzle must be kept in motion back and forth across the stream to obtain the desired dispersion.

The material has a specific gravity of 1.4, causing it to drop gradually to the bottom of the stream or canal. As it contacts the water it spreads in a white milky cloud and the strength of the dispersion can be judged by the color. The distance that the cloud or blanket travels before it begins to lose its brilliant white color, and it becomes necessary to add additional compound, determines the position of the next treating station. The best results have been obtained where the velocity of the water was 1 ft. per second or below.

Following application, the effect on the plants is noted quite rapidly. The growth turns darker and a downward trend of the water level is quickly noticeable. Within 24 hours after application the plants collapse and in four or five days turn white and start to disintegrate. The growth breaks up into minute particles which are carried away by the stream, eliminating any disposal problem. In static water it is necessary for the men to move along the channel in making the application, to assure satisfactory uniform

dispersion. Here the debris simply drops to the bottom of the pond.

Length of control depends upon the fertility of the soil underlying the water, and on the extent of reseeding. The character of the soil also affects the quantity of the weed killer retained. Some plants show a considerable resistance to treatment which may be caused by the algal coverage of the plants, the plants themselves, or perhaps the hardness of the water. For uniform success in application, the conditions in the area being treated need to be studied carefully from every angle. Water weeds and moss are of many types which vary in their resistance or regenerative abilities. Their growth stage and density both naturally affect the results which may be expected from treatment. The volume, chemical composition and rate of flow of the water must also be taken into consideration.

Where the flow of water is too rapid, contact of the sprayed solution with the plants may be too short to result in effective control. To permit longer contact it is sometimes necessary to slow down the flow of the stream. Experience has indicated that a flow of $\frac{1}{4}$ to 1 foot per second is the most practical.

THE following general directions for application are given in a booklet issued by The Cloroben Corporation:

1. Depth of water is reduced in weedy areas to the minimum required to submerge all growth, and volume of flow is metered, so that:—
2. Surface velocity is between $\frac{1}{4}$ and 1 foot per second.
3. When possible a starting point is selected, above the weed growth. If first applications are made in clear water 300 to 1,000 ft. upstream, the Benoclor diffusion spreads the width of the stream before entering the infested area. Otherwise, the first few hundred feet receives an uneven application.
4. From a temporary plank bridge or other structure the Benoclor is pumped through one or more spray nozzles held beneath the water surface.

The quantity applied is governed by width, depth, velocity and volume flow of water. Approximately one-half gallon of Benoclor per foot width of canal water is required at the first station, that is, 5 gallons in



a 10 ft. ditch—1 to 2 ft. deep, velocity not over 1 ft. per second, volume flow 10 c. f. s. or less. The time required to apply the volume of Benoclor is noted and recorded.

5. As it leaves the nozzles, the Benoclor forms a milky emulsion which spreads until the water appears all white. Spraying is continued slowly for 25-45 minutes. This forms a continuous blanket 800 to 1,000 ft. long, which moves slowly downstream.
6. The operator immediately thereafter proceeds to a second prepared station, generally 1,000 ft. downstream. More Benoclor is added when the appearance of the blanket changes from a brilliant white to a bluish white, by spraying at a sufficient rate to restore its strength.
7. This procedure is repeated at each station recording the quantity of Benoclor applied, the time when spraying started, and when it was stopped, so that the rate of application may be known.
8. The length, as well as the strength of the blanket, may be maintained by spraying as required.
9. Treatment is discontinued a mile and a half above the point where the water is diverted for irrigation. Frequently the effect of the Benoclor continues for 2,000 to 3,000 ft. beyond the final point of application.
10. No harm to the crop ensues if dilute Benoclor water is applied to the fields. However, it is a waste of chemical.
11. Checks, weirs or falls tend to greatly reduce the strength of the Benoclor blanket. Restoration treat-

ment is best applied on the down stream side, and strong make up dosages are generally required.

12. Results are frequently evident the same day application is made and the initial effect is noticeable after 2 or 3 days. Consistent observation at 10 day intervals should be made and recorded for a month or two so that the experience may be available for future use. Normal flow is resumed 24-48 hours after the treatment has been made. A distinct drop in water level is generally observable.

Following successful treatment of aquatic weed growths, regrowth is said to be delayed or retarded. Repeated treatments may be expected to reduce substantially the volume of regrowth, eventually resulting in weed control for extended periods.

Hydrogenation of Fatty Acids

By the use of a cadmium-modified, copper-chromite catalyst, unsaturated acids or their esters can be reduced in large measure to the corresponding alcohols with the addition of the minimum amount of hydrogen at the double bonds. The product so formed had a saponification number of 13.6, which showed a 93 per cent reduction of carboxyl groups. The iodine number was 75 and indicated that only about 20 per cent of the double bonds originally present had added hydrogen.

Other than residual fatty acids, the impurities were only about 2 per cent. The process is applicable to the hydrogenation of glycerides and ethyl esters of unsaturated acids. In these cases the copper-chromite catalyst retards the saturation of the double bonds, but does not necessarily accelerate reduction of carboxyl groups. A. S. Richardson, to The Procter & Gamble Co. U. S. Patent No. 2,375,495.

Polyunsaturated Constituents

Existing ultraviolet spectrophotometric methods have been modified for application primarily to the detection and estimation of low proportions of conjugated and nonconjugated unsaturated constituents in fats, oils and soaps. The method is applicable also to fatty materials having high proportions of these constituents. The presence of small proportions of highly unsaturated conjugated and nonconjugated compounds is established in lards, tallows, tallow soaps, and highly purified esters and acids. Tall oil fatty acids are shown to contain about 10 per cent of conjugated diene acids and a small amount of linolenic acid. B. A. Brice, M. L. Swain, B. B. Schaeffer, and W. C. Ault. *Oil & Soap* 22, 219-24 (1945).

WATER SOFTENERS

(From Page 34)

shared by others.(24) While perhaps not actually harmful to the skin, Kalish feels that this excess alkalinity may contribute to skin dryness.

With an exceptionally mild action on the skin,(26) there is quite general agreement, especially among American workers,(23, 29, 30) that sodium sesquicarbonate is one of the best materials for use in bath preparations. Sodium sesquicarbonate is favored, not only because of its water softening action but also because it dissolves very quickly in water. Because of its rapid solution, Auch(24) advocates the use of alcoholic solutions when coloring this material. This salt takes on beautiful tints when dyed and its crystals are very brilliant. In addition to these qualities it has the further advantage in that it is not hygroscopic and hence keeps indefinitely in containers without caking.

Borax, often recommended and frequently used, has the advantage of stability and of being easily colored and perfumed. Possessing some detergent action and with mild water softening properties, the chief drawback is its difficult and sparing solubility.(24, 27, 28)

The newer phosphates also loom large in the bath salts field. Sodium hexametaphosphate, for example, is a very good water softening compound and is substantially neutral in reaction. Dermatologically acceptable,(31) it rates special attention in bath salt compounding. Tetrasodium pyrophosphate also possesses properties that recommend its use in bath preparations, especially in admixture with other salts. Available in good crystals, an acceptable water softener and not too highly alkaline, its presence serves to prevent hard water from clouding up too noticeably as it is softened.

The question of compatibility is an important one in selecting odors and colors for bath salts. Colors must be fast to alkalis and light, but in the main most colors suitable for tinting soap will be found effective for bath salts. In a general way the same holds true for perfuming agents. Odors that

are suitable for soap usually will be found capable of standing up when mixed with water softening materials. In any event the perfume should be carefully tested for discoloration and stability in a portion of the salt or mixture to be used. Of course, an easy way to overcome many experiments and difficulties is to rely on the knowledge acquired by essential oil houses who can supply ready made bases combining odor and color.

In passing it might be well to take cognizance of the growing trend toward making bath preparations especially designed for men. While such products may be without color or odor, provided the crystals themselves are attractive, the employment of scents and tints would probably not be too objectionable provided masculine tastes were taken into consideration.

Although variations in manufacturing procedures have been suggested from time to time, the actual production of bath salts should present no great difficulties. According to Chilson,(23) when bath salts are made from any one or a combination of base materials, the customary practice is to dissolve the color and perfume together in alcohol. This solution being sprayed on and thoroughly mixed through the crystals; the alcohol being permitted to evaporate before the bath salts are packed.

Bibliography

1. Collins, W. D., Lamar, W. L. and Lohr: U. S. Geological Survey, Water Supply Paper 658, 1934, pp. 12-19.
2. Smither, F. W.: "Washing, Cleaning and Polishing Materials," Washington, Nat. Bur. Standards, Circular C424, 1939.
3. Hudson, H. W.: Water Works Eng., Jan., 1934.
4. Anon.: "Materials for the Household," Washington, Nat. Bur. Standards, Circular No. 70, 1917, pp. 192-6.
5. Crowley, R. O.: "Money Making Formulas," Chicago, Pop. Mech. Press, 1938, pp. 117-8.
6. MacMahon, J. D.: Laundryman, June, 1940, p. 7.
7. Vasilev, A. M.: Soap Manuf. (U.S. S.R.), 1937, (through) Chem. Abstr. 32:1503, 1938.
8. Kroeger, E. C.: U. S. Pat. 2,099,743, 1937.
9. Hall, R. E.: U. S. Pat. 1,956,515, 1934.
10. Fiske, A. H., and Bryan, C. S.: U. S. Pat. 2,059,570, 1936.
11. Hughes, R. C., and Bernstein, R.: Ind. & Eng. Chem. 37:170, 1945.

12. Smith, G. W.: Am. Dyestuff Rep. 23:313, 1934.
13. Akhumov, E. I., and Mazel, A. A.: J. Chem. Ind. (U.S.S.R.) 17: No. 3, 44, 1940 (through) Chem. Abstr. 37:2853, 1943.
14. Kerr and Field: J. Dent. Res. 23:313, 1944.
15. Hubbard, F. E., and McCullough, C. R.: U. S. Pat. 2,244,158, 1941.
16. Anon.: Consumer Rep. Tech. Sect., Jan., 1943, p. 14.
17. Treffler, A.: Soap & Sanit. Chem., 17:29, Nov., 1941.
18. Rumford Chemical Works: French Pat. 822,584, 1938.
19. Chesson, A. J.: U. S. Pat. 2,304,626, 1942.
20. U. S. Pat. 1,952,408.
21. Paterson, A.: Brit. Pat. 502,833, 1939.
22. Smith, J. M., and Alfloc Ltd.: Brit. Pat. 548,290, 1942.
23. Chilson, F.: "Modern Cosmetics," Ed. 2, New York, Drug & Cosm. Ind., 1938, pp. 429-430.
24. Auch R. H.: Soap & Sanit. Chem., 13:24, Apr., 1937.
25. Hewitt, M. L.: Perf. & Essent. Oil Rec., Nov., 1935, p. 409.
26. Anon.: Soap, Perf. & Cosm., June, 1936, p. 382.
27. Jaunaway, A. P.: Perf. & Essent. Oil Rec., Mar., 1938, p. 80.
28. Harry, R. G.: "Modern Cosmetology," New York, Chem. Publ. Co., 1940, pp. 154-8.
29. Kalish, J.: Drug & Cosm. Ind., 47:644, 1940.
30. De Navarre, M. G.: "Chemistry & Manufacture of Cosmetics," New York, Van Nostrand, 1941, p. 550.
31. Koenig, A.: Med. Rec., 142:273, 1935.

Action of Lauryl Sulfate

By studying the washing process under the microscope it was found that when sodium lauryl sulfate is used as the washing medium, the dissolving of oily contaminations takes place in the following manner. The oil spots first covering large areas are decreased gradually in size by the action of the solution of the surface-active agent until they have shrunk to drops which are floated off the fiber.

No fundamental differences were observed when wool, viscose rayon, and cuprammonium rayon were studied as the carrier of the dirt. Furthermore, no differences were found in the velocity of the removal of the various oils used in the study. This removal took place particularly quickly in the case of free fatty acids; this fact is probably due to secondary reactions. W. Kling, E. Langer, and I. Hausner. *Mallian Textilber.* 25, 198-202 (1945).

ROSIN SUPPLIES . . .

What Is the Future Outlook?

ROSIN is one of the leading supply problems on the War Production Board list at the present time, and promises to continue to be a major national problem for perhaps two years. Up until a short time ago the soap industry's quota was only twenty-five per cent of base period use (to which were added quota-exempt stocks for war purposes). Since V-J Day, WPB's order M-387, governing rosin, has been amended so that both civilian and military uses are now included in new and expanded quotas for the soap industry, paints, adhesives, linoleum, etc. The soap maker's quota has been boosted to fifty-five per cent, with the cancellation of quota-exempt deliveries, but a serious supply problem continues, and probably will for many months to come.

The rosin supply picture was ably reviewed for users in the printing ink field by Wells Martin chief of the Protective Coatings Branch, Chemicals Bureau of WPB, speaking before members of the National Association of Printing Makers at their annual meeting at Atlantic City, N. J. Mr. Martin gave the following warning to ink makers which will be equally applicable to users of rosin in the soap field. He said in part:

"I think it is only fair that you be informed at this time, that you as well as all other industries stand a good chance of not receiving your quota of rosin during the next 12 months. Let me emphasize that in another way. It is entirely conceivable that rosin users will not get as much rosin during the next 12 months as during the last 12 months. How serious this situation could be is difficult to foretell. I believe, however, that every domestic user should realize just what the rosin outlook is.

"A few simple facts will help. The naval stores industry is rather sharply divided into two main seg-

ments. The first is the gum naval stores industry or the so-called farming end of the business. The second is the wood naval stores industry or the chemical end of the business. Up until the present, gum rosin production has always exceeded wood rosin production. However, since 1937, total rosin production and particularly that from the gum industry has declined each year while total consumption has increased each year. In the years 1942, 1943, and 1944, this country used or distributed up to nearly half a million drums per year more than was produced. This was possible because Uncle Sam (through Commodity Credit Corporation) owned at one time as much as 1,600,000 barrels of gum rosin. In addition, there were usually in the hands of producers and consumers of rosin from half a million to 800,000 drums.

"Production in 1944 of both gum and wood rosin totalled 1,300,000 drums. Distribution has been more than 1,900,000 drums. Carry-over in the hands of both producers and consumers at the end of the last Naval Stores fiscal year, March 31, 1945, was 388,000 drums—the lowest in 50 years. To sum up—the large reserves are totally gone. We have been using rosin much more rapidly than it has been produced. For a period of time at the beginning of 1945 before we took control of the situation, even the Navy couldn't buy rosin without a directive from War Production Board. Early in 1945, therefore, notwithstanding strong opposition from the industry, War Production Board issued Order M-387.

"For many months, we in War Production Board have made every effort to increase rosin production. We were successful in stepping up the level of the wood rosin production by an estimated 150,000 drums this year with hopes of even more next year. Bad weather interfered with plans for in-

creased gum rosin production. To further accentuate the difficulty, I am sorry to report that within recent weeks there have been three bad fires in the naval stores industry. This included the total destruction of the largest plant in the gum industry. These fires mean that three plants out of not many more than a dozen in the industry will be out of production until sometime in 1946. It appears now that the increase of rosin production during the current year may be only about 100,000 drums. The rubber and tire industry alone will take every drum of this increase. Every facility is being made available to rebuild the burned down plants. Likewise War Production Board has sponsored two large wood plants which now are under construction. These all should be operating next Spring or Summer. Until they do get into production, rosin will continue in short supply.

"And now regarding Order M-387. In addition to restricting domestic use by industry quotas, inventory regulations were imposed to prevent hoarding. Arrangements made with the order almost eliminated the export of rosin. Before the war approximately half of all American rosin (both gum and wood) was exported. The figure was anywhere from 700,000 drums to more than 1,000,000 drums a year. For 1945 under the order we had planned to take care of the needs of American industry first. Just to maintain the pitifully low quotas that were established for our American industries, it was necessary to limit exports arbitrarily to 121,000 drums during 1945. About 50,000 of these go to Canada. During the last five years most of our large rosin customers, Belgium, Holland, the Scandinavian Countries, and the Far East, and others, couldn't secure our rosins. Great Britain was our largest prewar customer, but because of our own shortages, we arranged for her to get rosin from Spain and Portugal.

"These buyers are now back in the market, together with our good Latin American neighbors. For some weeks we have been under tremendous pressure to take away rosin from
(Turn to Page 71)

RAW MATERIALS

FOR THE SOAP AND ALLIED INDUSTRIES

ANIMAL OILS, FATS, CHEMICALS, VEGETABLE OILS

DRUMS — TANK CARS — TANK WAGONS

Every raw material necessary for the manufacture of soap and allied products is carried in stock and is available at the right price for immediate delivery to your door.

PALMITIC ACID

90-95% Pure White.
High Melting Point

ALCOHOL
AMMONIA
BLEACHING POWDER
BORAX
BICARBONATE OF SODA
CARBON TETRACHLORIDE
CALCIUM CHLORIDE
CAUSTIC SODA
CAUSTIC POTASH
DYES
DISODIUM PHOSPHATE
GLAUBER'S SALTS
GLYCERINE
METASILICATE
OXALIC ACID
POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
SODA ASH
TRISODIUM PHOSPHATE

GLISYN

Inquiries solicited on this low price glycerine replacement

CASTOR OIL
COCOANUT OIL
CORN OIL
COTTONSEED OIL
LARD OIL
NEATSFOOT OIL
OLEIC ACID - RED OIL
OLIVE OIL
OLIVE OIL FOOTS
PALM OIL
PALM KERNEL OIL
PEANUT OIL
RAPESEED OIL
ROSIN
SALAD OIL
SOYA BEAN OIL
SESAME OIL
TEASEED OIL
WHITE OLEINE
FATTY ACID
STEARINE
STEARIC ACID
GREASE
TALLOW

Telephone: MOrsere 6-4870. Direct New York
Tel. CHickering 4-7533.
Members New York Produce Exchange

COCOANUT OIL

CAUSTIC POTASH

STEARIC ACID

CAUSTIC SODA

RED OIL

TALLOW



EASTERN INDUSTRIES, INC.
RIDGEFIELD, N. J.

Wrisley, Jr., Out of Marines

George Wrisley, Jr., has recently received his honorable discharge from the U. S. Marine Corps, and is once more back at work at Allen B. Wrisley Co., Chicago. He was a 1st Lieutenant and was decorated with the Silver Star and Clusters following the Tarawa campaign. His two brothers, Allan and David, are still serving with the U. S. Army.

Approve Babbitt Pension Program

Treasury Department approval of a pension plan available to 500 employees of B. T. Babbitt, Inc., New York, was announced recently. The plan, approved Oct. 1, is retroactive to July 1. The pension arrangement rounds out the company's security program, which includes group life insurance for all employees, in effect since 1926, and medical and hospital expense, inaugurated last year. The pension is primarily for the benefit of the employees and the expense is borne entirely by the company. It is not to apply to incomes above \$10,000. Benefits range up to \$3,500 a year per person, not counting Federal social security payments, which, when added, make possible more than \$4,000 annual pension. Babbitt employees who served in the armed forces will be given credit for their full enlistment.

Named Shulton Publicity Head

Shulton, Inc., New York, announced the appointment of Ruth Ann Bolway as publicity director, Oct. 11, to succeed Miriam Gibson (Mrs. George S. French), who retired from business. Miss Bolway has been with Shulton for the last 18 months as assistant publicity director.

Army Releases Maj. Peck

After four years and eight months of active duty, Major Leo G. Peck, AUS, of Peck's Products Co., St.

Louis, has received a release from the army. Major Peck's terminal leave, which is expected to expire around Dec.



MAJOR LEO PECK

20, will be followed by his rejoining the firm. Twenty months of Major Peck's nearly five years in service were spent in the European Theatre of Operations.

Burke DAV Fund Chairman

Oscar M. Burke, president of Manhattan Soap Co., New York, has accepted chairmanship of the Soap and Cleansers Division of the National Service fund of the Disabled American Veterans, the chairman of the Fund announced recently. The DAV is a Congressionally sponsored organization which was formed in 1920 to help veterans in the preparation and prosecution of their claims for benefits and to assist them in rehabilitation and job placement.

Vail 40 Years with Phila. Quartz

James G. Vail, vice-president and director of Philadelphia Quartz Co., Philadelphia, was tendered a luncheon by his fellow directors at the Downtown Club, Philadelphia, recently, on completion of his fortieth year with the company.

Auch Opens Sales Office

Ralph H. Auch, for about the past four years a consultant and industrial adviser with the War Production Board, resigned early in November to return to Cincinnati to open a resident selling office in chemicals and containers. He was formerly associated with American Products Co., Cincinnati, and Schenley's production department.

Hewitt Buy New Plant

Hewitt Soap Co., Dayton, Ohio, subsidiary of Procter & Gamble Co., are reported to have bought the Dayton plant of United Aircraft Products, Inc. The building is three stories, of brick construction, and has about 60,000 square feet of floor space. It will allow for a substantial expansion in Hewitt's productive capacity.

P. & G. Samples New Cleaner

Procter & Gamble Co., Cincinnati, have recently been conducting a direct mail campaign on behalf of their new "Spic and Span" general household cleaner. In addition to a four color circular illustrating the package and describing how the product is used, a small sample is enclosed with each mailing piece.

New Wrisley Warehouse

Allen B. Wrisley Co., Chicago, are building a new warehouse at their Clearing plant which will give them an additional 80,000 square feet of storage space.

Charles Bassett Hospitalized

Charles C. Bassett, director of sales for Cowles Detergent Co., Cleveland, is a patient at Lakeside Hospital, Cleveland, as a result of an injury to his back, it was learned recently. He is expected to be confined to the hospital for several weeks.



WHETHER PAINT IS USED on an 18-foot sloop or a 7-room house, it must retain its original sparkle and purity—just as it pours from the grinders at the factory. Preserving these qualities in paint, from maker to user, is largely the responsibility of steel containers.

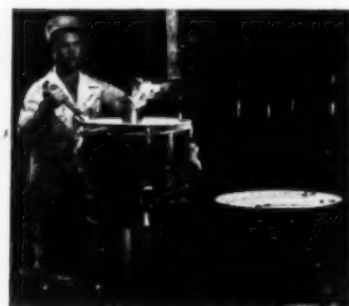
Through trial and error, paint manufacturers have learned that only steel containers, such as Rheem makes, give the airtight security needed to prevent oxidation, and to keep the solvent from evaporating. And only the steel "package" can absorb the punishment a traveling container must take.

Rheem rugged-built steel containers have served a wide list of American industries since 1926. In a variety of sizes, gauges and linings, they protect products that range from the tough-bodied oil you put in your automobile to the delicate-flavored oil you pour on your salad.

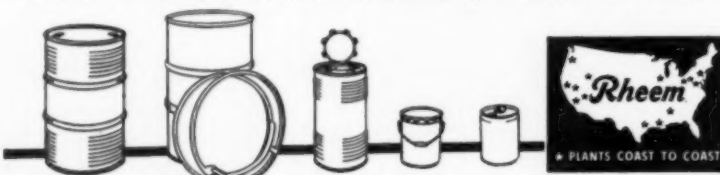
When you want a container, remember that *inside and out* no other container protects like the steel drum or pail. And Rheem knows how to make the right steel container for your product.

* * *

Rheem drums, with Quik-Lox full-removable heads, on the filling line at a West Coast paint factory.



Your Product Deserves the Protection of a Rheem Container



RHEEM MANUFACTURING COMPANY

General Sales Offices

New York • San Francisco • Los Angeles • Chicago

Say you saw it in SOAP!

November, 1945

Soapers 2nd Quarter Fat Use Drops

FIGURES on consumption of fats and oils by the soap industry during the second quarter of this year show a substantial drop from the first three months' period. The total for the second quarter was 452,487,000 lbs. of fats and oils, as against 519,920,000 lbs. during the first quarter. The pattern of oil and fat use by the soap maker remains about the same as for the past two or three years, with tallow and grease bulking large in the soap maker's kettle charge. Consumption of inedible tallow was 261,606,000 lbs. in the second 1945 quarter, which amounted to 58% of all fats and oil used in soap. The total for grease was 112,126,000 lbs., or about 25% of soap makers' fat and oil use. Lard, used in the volume of 22,445,000 lbs. accounted for another 5% of the overall total. Coconut oil, once one of the items consumed in most substantial quantities by soapers, went to the soap kettle in only small volume.—with 8,031,000 lbs. of crude and 5,808,000 lbs. of refined oil being used. Soapers used 13,061,000 lbs. of edible tallow and 12,760,000 lbs. of fish oil. Other fats and oil were used in very small volume, with no one product bulking as high as three million pounds.

The complete list of fats and oils consumed by soap makers during the second 1945 quarter follows:

Vegetable Oils

	lbs.
Cottonseed, crude	228,000
Cottonseed, refined	225,000
Peanut, refined	18,000
Coconut, crude	8,031,000
Coconut, refined	5,808,000
Corn, crude	208,000
Corn, refined	10,000
Soybean, crude	780,000
Soybean, refined	461,000
Olive, edible	1,000
Olive, inedible	88,000
Olive foots	445,000
Palm kernel, crude	2,073,000
Palm kernel, refined	1,617,000
Palm, crude	2,336,000
Palm, refined	139,000
Babassu, crude	2,941,000
Babassu, refined	2,908,000
Linseed	235,000
Castor No. 1 crude	274,000
Castor No. 3 crude	221,000
Castor, sulfonated	103,000
Other vegetable	215,000

Animal Fats

	lbs.
Lard	22,445,000
Oleo oil	1,016,000
Tallow, edible	13,061,000
Tallow, inedible	261,606,000
Fish oil	12,760,000
Greases	112,126,000

"Wool Foam" on Sale in Chicago

Woolfoam Corp., 16 W. 20th St., New York, is using Chicago newspaper space to advertise "Wool Foam" for washing woollens. Distribution is through drug and grocery stores, stores where magazines are sold and art needlework, notions and housewares sections of department stores.

Offer New "Soilax" Display

Economics Laboratories, Inc., St. Paul, Minn., are offering dealers a novel, counter-size display unit of the self-service type for displaying "Soilax" general household cleaner. Topping a tier of dummies, lithographed in 8 colors and built around a center core, is a semaphore, which revolves at the customer's touch, suggesting various uses of the product.

Open Lenthaler Chicago Showroom

New Chicago showrooms for Lenthaler Inc., were opened in the Monroe Building, 104 S. Michigan Ave., that city, late in Sept., with W. R. Tenney, Chicago area representative in charge. Centrally located, the new quarters offer a convenient service to distributors in Chicago and midwest areas.

Sees Expanded Sanitation Market

A huge market for sanitary supplies is waiting development in manufacturing plants formerly engaged in war production, says Leo J. Kelly, executive secretary of the National Sanitary Supply Association, Chicago. During war time, he believes, many plants were too busy to do a real cleaning job, but now that they have slowed down sanitary supply salesmen have an excellent opportunity to make

surveys of their cleaning and sanitation requirements. "Many plants need a thorough cleaning right now," Mr. Kelly writes in a recent bulletin on "Sanitary Supply Selling." "Point out the need and sell them on the proper supplies to do the job completely and thoroughly."

Tighten U. K. Soap Rationing

Difficulties in rationing soap in the United Kingdom have necessitated a change in procedure which requires grocers and other retailers to cut, count, and sort coupons and send them to the Ministry of Food, it was learned from Scotland recently. Because of all the added work involved, the measure appears to be not at all popular with grocers. In fact there was one report that following protests against the new soap rationing scheme trade associations advised their members to refuse to count and sort out coupons.

Reineck Joins Quaker Oats

Quaker Oats Co., Chicago, announced Oct. 15, that Edward A. Reineck had joined the technical sales staff of their chemicals department. He will assist in the development of new applications for furfural and its derivatives in the resins and plastics industry. A graduate of Lawrence College, he has been on the staff of the Institute of Paper Chemistry for the past nine years.

Hagen in Europe to Study Oil

Otto A. C. Hagen, president of Hagen Corp., importer and exporters of New Orleans, has been in Europe, recently, studying the vegetable oil situation in Spain, Portugal and North Africa, it was learned recently. Mr. Hagen, who flew to Europe on the Clipper, operated for many years in Philadelphia as an importer of olive oil, olive oil foots, etc. It was these oils, and palm oil, to which he devoted his major interest on the trip.

Zahn Heads "Oakite" Package Div.

Walter J. Zahn has been made manager of the Chicago package division of Oakite Products, Inc.

KRANICH SOAPS

CONCENTRATED

LIQUID SOAP
SHAMPOO

★ ★ ★ ★ ★

POWDERED SOAPS

Pure Coconut

U.S.P. Castile

★ ★ ★ ★ ★

POTASH SOAPS

Soft Potash 40%

U.S.P. XII Green

★ ★ ★ ★ ★

Kranich Soap Company, Inc.

55 Richards Street

Brooklyn 31, N. Y.

KRANICH SOAPS

Deupree Describes P & G Guaranteed Work Plan

SPEAKING before a luncheon at the conference on general management of the American Management Association, at the Waldorf-Astoria Hotel, New York, Oct. 11, Richard R. Deupree, president of Procter & Gamble Co., Cincinnati, declared "steady employment, if it can be maintained, is economical." The way to achieve steady employment Mr. Deupree stated, is to "produce to the consumption line instead of the buying line." This he explained is based on the theory that while goods are consumed at a fairly even rate by the ultimate consumer they are not bought evenly, and thus steady employment becomes almost impossible. Although consumption of soap and shortening, the two principal P & G products does not vary more than 10 per cent upward in the spring and 10 per cent downwards in the fall, his company operated for over 80 years with wide swings of production, Mr. Deupree declared. This meant wide swings of employment, he added. "That was because we thought that when a dealer bought a car of soap he had to have it within a week or two after he bought it; but when we realized that all he was doing was stocking the goods, and that, as a result, later on our plants would be shutting down while he disposed of it, we changed our ideas of supplying purchasers. Then it was that we commenced to work out a plan to get away from producing and selling to this uneven, up-and-down buying line," the speaker asserted.

"Our plan," Mr. Deupree explained, "which has been in effect since 1923, is very simple in its concepts and administration. In effect we guarantee a worker 48 weeks' work in the calendar year provided he wants to work and is willing to take any job which we can give to him. The employee's pay is controlled by the rate which covers the specific job he is working on."

"While today we will sell a dealer for forward shipment, that is,

30 days or 45 days, we never allow ourselves to be booked up more than 60 days and we never try to ship a 60-



RICHARD R. DEUPREE

day supply within 30. Of course, the dealer likes it; all that he apparently is seeking is reasonable protection on price in a favorable market, and if he has that he is very well satisfied. Then he can make delivery to his customers as he gets goods in. Barring wartime shortages, the dealer is never out of stock, the goods are flowing evenly, and the result is a very much better method of distribution than we formerly had," the speaker pointed out.

When a dealer becomes frightened and reduces his inventory, even though consumption continues the same, P&G arranges to expand its storage facilities for a minimum of one month's supply and a maximum of two. Although this situation occurs only about one year out of three, and then for a period of not more than six months, it is still more economical to lease outside storage space and continue producing evenly than to resort to lay-offs, Mr. Deupree said.

Economies accruing from the use of this plan to even out production include purchasing advantages and reduced investment of capital in plants and equipment, and consequently in fixed carrying charges associated with plant investment. In other words, Mr.

Deupree stated, "we are able to run our plants from 90 to 95 per cent capacity at all times. Formerly we were compelled to construct for 140 to 150 per cent of the average production." In addition, the fact the Procter & Gamble has not had a "real strike" in 60 years was felt to be significant, he declared.

Charges Waste of Copra

Marimo Kalaw, Philippine member of the United Nations Food and Agriculture Organization Conference, reported to that group at their meeting in Quebec last month that thousands of tons of copra are going to waste in the Philippines through neglect. Coco-nuts lie scattered on the ground, uncollected and rotting, while fat shortages plague the balance of the world. He called for quick organization of the copra industry to speed up exports, charging that up to now very little copra has been moved out of the Philippines. A report from Manila, quoted in the New York newspapers, indicated that American offers for Philippine copra were below cost of production. American offers, said Manuel Roxas, president of the Philippine Senate, were only 60 pesos a ton, as against offers of 200 and 250 pesos a ton from buyers in Panama and Mexico. Under the fat control setup the Philippines are not allowed to ship to these countries however.

Shulton Salesman Dies

Lewis S. Cobb, 35, a salesman for Shulton, Inc., New York, died there recently. He had been with the company since Feb., 1944. Previously he had been with Centaur Co. Mr. Cobb, a native of Texas, who covered Manhattan, the Bronx and Westchester county for Shulton, is survived by his wife, his mother, a brother and three sisters.

Eckerman Stricken Suddenly

E. G. Eckerman, vice-president and general sales manager of Davies-Young Soap Co., Dayton, O., was taken ill suddenly on Oct. 5, and was hospitalized for several weeks, as his doctor prescribed a complete rest for him.



Pictured above are some of the participants in the inter-city quiz program staged by the Chicago Drug and Chemical Association and the St. Louis Drug Club, following the club's regular monthly luncheon, recently. Left to right they are: Edgar Brand, luncheon chairman; CD&CA president, Harry Dunning; and past presidents, Elmer Smith and Frank Charley, with master of ceremonies, Morrison Wood of radio station WGN. Ed Brand was pinch-hitting for Ed Drach who was late for the picture, but who took part in the show. P. S. St. Louis, not pictured, won the quiz

Pollitzer Building Soap Plant

Dr. Andrea Pollitzer, former Trieste, Italy, soap maker, and for the past year employed by the Allied Food Commission in Italy, recently announced his intention to build a new soap, oil and chemical plant in Trieste. Dr. Pollitzer has already purchased the ground for the new plant, which will be built as soon as building materials become available at normal price levels. The former Pollitzer plant, Antiche Ditte Riunite Industria Adriatiche, was taken over by the Germans during the war. They put the manager in jail, according to Dr. Pollitzer, and installed in his place a "Kommissaer." The buildings and heavy machinery remain intact, although it will require considerable money and time to make repairs. Nearly all stocks of fats and oils were taken by the Germans. However, some essential oils and other precious materials were buried under cellars of buildings and were not found by the Germans, according to Dr. Pollitzer.

Behr Dow Aromatics Head

Dow Chemical Co., Midland, Mich., announced recently that Dr. Arthur Behr, who has been with the company since 1940, had been appointed director of aromatics research. Under the new arrangement, Dr. Behr

dissociates himself entirely from production and concentrates his activities on research and technical service.

A. S. T. M. Soap Standards Out

The 1945 edition of "A.S.T.M. Standards on Soaps and Other Detergents," prepared by the A.S.T.M. Committee D-12 on Soaps and Other Detergents, is now available, it was announced early in October by the American Society for Testing Materials, 260 So. Broad St., Philadelphia. There are 29 specifications and tests covered. Specifications for soap cover bar, chip, powdered, salt water, solid and toilet. Specifications for detergents cover soda ash, caustic soda, modified (sesquicarbonate type), sodium sesquisilicate, trisodium phosphate and tetrasodium pyrophosphate. Methods of test include sampling and chemical analysis of soaps and soap products, soap containing synthetic detergents, special detergents, sulfonated and sulfated oils, metal cleaning compositions (industrial), etc. Definitions of terms applying to these materials are given. An extensive 30-page bibliography of aluminum and other metal cleaning is also included. Copies of the publication in heavy paper cover can be obtained from A.S.T.M. for \$1.75 by interested parties.

Haag Buys New Plant

Haag Laboratories, Inc., Chicago, have purchased a new, and larger plant and Hawk-Eye Boiler Compound Co., it was learned last month, as part of their postwar program of expansion. The new plant is a three story brick building, in Blue Island, a suburb of Chicago. The company plans to equip the new plant with the most modern devices available for producing quality liquid soaps and shampoos and kindred items. It will require about two months to move into the new plant, which is located on the Indiana Harbor Belt (railway) line.

At the same time, Haag has purchased the 47-year-old Hawk-Eye Boiler Compound business, which is to be operated under a separate corporation, but with the same personnel. Ralph Haag, now serving as a junior grade lieutenant with the U. S. Naval Reserve in the Pacific, is expected to join the Haag organization as soon as he is released from the Navy. Like his father, V. W. Haag, president, and brother, V. W. Haag, Jr., vice-president, Lt. Haag is a graduate of the University of Illinois.

Rumford Washing Booklet

Rumford Chemical Works, Rumford, R. I., announced last month the issuance of a 22-page, pocket-size manual, "Better Washing with Quadrafos." This free manual for laundry operators, available from distributors of laundry supplies or direct from the company, tells how to speed rinsing, save soap, reduce bleach, prevent greying, soften water and improve bluing and starching—common problems that confront laundry operators. In addition to technical information about the properties and uses of "Quadrafos," the manual contains five working formulas for white work, fast colors, fugitive colors, silks, wool, and rayon, and hotel and hospital flatwork.

Daughter Born to Garlicks

T. H. Garlick, sales manager of Seeley & Co., perfuming materials, New York, and Mrs. Garlick announced, last month, the arrival of a daughter born on Oct. 4.



Commonplace Essentials loom large among materials on which many modern advances in chemical synthesis depend. Caustic soda, one of the most familiar faces in the chemical family, is typical. For " NaOH " serves in the processing of rayon yarns for fine fabrics, soaps, refined petroleum and vegetable oils, paper making, and in rubber reclamation. Thorough knowledge of such widely used "*Commonplace Essentials*"... is combined with Niagara's recognized preeminent standards of manufacture to provide users with the dependable source of supply they need.

An Essential Part of America's
Great Chemical Enterprise

Niagara Alkali Company

CAUSTIC POTASH • CAUSTIC SODA • PARADICHLOROBENZENE • CARBONATE OF POTASH • LIQUID CHLORINE • NIATHAL



60 EAST 42nd STREET • NEW YORK 17, N. Y.



EMULPHOR DDT

Emulphor DDT is a war tested, highly efficient emulsifying agent for DDT insecticide.

Solvent solutions of DDT emulsified with Emulphor DDT are suitable for either spraying or immersion.

Emulphor DDT obviates the use of excessive amounts of solvent.

Sample and formula will be furnished on request.

Dyestuffs specially selected for the coloring of DDT insecticide are available.

GENERAL DYESTUFF CORPORATION

435 HUDSON STREET • NEW YORK 14, NEW YORK

BOSTON • CHARLOTTE • CHICAGO • PHILADELPHIA • PROVIDENCE • SAN FRANCISCO



She will—if it has the advantage of FLORASYNTH aromatic appeal . . . It is this vital "please" . . . created by distinctively faithful reproductions of the true floral odors . . . that permeates and distinguishes *your* products from all others . . . Florasynth

J A S M I N

is one of a wide variety of SOAPAROMES that will add this vital "please" factor to *your* products . . .

Florasynth LABORATORIES, INC.
CHICAGO 6 • NEW YORK 61 • LOS ANGELES 27



DALLAS • DETROIT 2 • MEMPHIS • NEW ORLEANS 13 • ST. LOUIS • SAN FRANCISCO 3 • SEATTLE 4
Florasynth Labs. (Canada) Ltd. — Montreal • Toronto • Vancouver • Winnipeg Florasynth Laboratories de Mexico S. A. — Mexico City

Soap Chemist in U. S. from Brazil

Pierre Bouillette, chemical consultant connected with Companhia Gessy Industrial, one of the largest soap makers in Brazil, whose principal factory is located near Sao Paulo, returned to the United States last month, and is making his headquarters with the New York office of J. Walter Thompson Co., who handle Gessy advertising. Mr. Bouillette is studying recent developments in the field of oil refining and extraction, fatty acid splitting and distillation, hydrogenation of oils, glycerine recovery and refining, etc. Companhia Gessy plan early expansion in this field and are also planning to manufacture a full line of cosmetics and toilet preparations in new buildings to be built in Sao Paulo where the main offices and warehouses are already located. Construction of these new facilities was contemplated before the war, but was necessarily postponed until machinery became more readily available.

Mr. Bouillette told a representative of SOAP & SANITARY CHEMICALS that Brazilian soap makers had almost as many wartime supply problems as did the American trade. Alkalis were in very short supply for a while, many of the perfuming materials were almost unavailable, and transportation was difficult because of the insufficient railroad communications between North and South, and the dependence of Brazilian industry on shipping which was necessarily diverted to war needs. Fat supplies were also difficult to obtain at times, and even supplies of Brazilian babassu and local as well as Argentine tallow presented a problem, due to the unavailability of sufficient shipping overland and over sea. But, in spite of those hardships, Brazilian industry did remarkably well, and now that conditions have improved, is looking forward to intensive developments and growing prosperity.

Remus Retires from Business

Edward Remus, president of Edward Remus and Co., New York, announced, last month, his intention to retire from active participation in the business as of January, 1946. He

will be succeeded by his son Richard Remus, heretofore in charge of the company's western office in Kansas City. Mr. Remus will continue to serve his company in an advisory capacity as chairman of the board. George N. Cox, assistant to Richard Remus in Kansas City becomes manager of the western office. Henry H. Pine will be in charge of a new Chicago office.

New Florasynth Officers, Plants

Plans for expansion of facilities and election of officers were announced recently by Florasynth Laboratories, Inc., New York, following meetings of directors, stockholders and executives of the company in New York. Dr. Alexander E. Katz was elected to the new post of chairman of the board, while William Lakritz was named president. David Lakritz was reelected vice-president in charge of manufacturing and research; Leonard Katz was reelected vice-president and assistant to the chairman of the board in charge of west coast activities. Joseph H. Fein was reelected treasurer and placed in charge of the company's purchasing and Charles P. Kramer was reelected secretary and counsel to the company.

Oil Chemists Hear 34 Papers

Soaps, drying oils and related subjects will be discussed in 34 papers that were to have been presented at the 19th annual fall meeting of the American Oil Chemists' Society, at the Hotel LaSalle, Chicago, Nov. 7-9. Chairman of the Chicago committee on arrangements is George A. Crapple, of Wilson & Co.

Charlotte F. Senior was chosen to continue as assistant treasurer. Dr. Katz, newly elected chairman of the board, will make his headquarters in Los Angeles, and Leonard Katz will also make his offices there. William Lakritz will make Chicago his headquarters, while David Lakritz, Joseph H. Fein and Charles P. Kramer will continue in charge of the main office, factory and laboratories in New York.

In addition to the purchase of a new plant in New York, and acquisition of a manufacturing plant in San Bernadino, Calif., the enlargement of the company's Los Angeles headquarters to facilitate west coast operations were announced. A report was also made of completion of improvements to the new Chicago plant.

Purchase of a new New York plant, covering an entire block front and containing over 90,000 square feet of floor space, to house the main office, enlarged manufacturing facilities, research laboratories and warehousing facilities was the first in a series of post-war expansion moves announced in October by Florasynth Laboratories, Inc., New York.





"Deep breathing might have something to do with it"

SURPRISINGLY enough, people bring similarly tidy problems to us. As when a manufacturer of calcium hypochlorite had difficulty packaging his product.

This chemical is unstable, corrosive, sensitive to moisture, and is required to be packaged in resealable cans. This presented a packaging problem for which no satisfactory container had been developed. Could we fix?

Well, we could try . . . Yep, we came through—by designing the "breather can"—a moisture-repellent container

which incorporated means for the gases to "breathe," and a lacquer to retard chemical action.

"Cangenuity," our ability to combine ingenuity with can-making experience, is one of the many ways you profit when you deal with Crown. And it's a good place to start. If you have packaging trouble, tell us your symptoms.

CROWN CAN

INDEPENDENT AND HELPFUL

CROWN CAN COMPANY • NEW YORK • PHILADELPHIA • Division of Crown Cork and Seal Company, Baltimore, Maryland

BIDS AND AWARDS

G. P. O. Liquid Soap Bids

Among the bids received in a recent opening for miscellaneous supplies by the Government Printing Office, Washington, D. C., on 80 drums of liquid soap were those of: R. M. Hollingshead Corp., Camden, N. J., 36 cents a gallon; Harley Soap Co., Philadelphia, 38 cents; Crystal Soap & Chemical Co., Philadelphia, 31 cents; Trio Chemical Works, Brooklyn, 31.5 cents and Fort Washington Chemical Products, New York, \$18.40 in 55 gallon drums.

New York Navy Awards

Among the awards announced in connection with recent openings for miscellaneous supplies by the New York Navy Purchasing Office, New York, were those of: R. M. Hollingshead Corp., Camden, N. J., metal polish, \$1.156; E. R. Squibb & Sons, Brooklyn, tooth paste, \$37.44; Pepsodent Division, Lever Brothers, Cambridge, Mass., "Pepsodent" tooth powder, \$79.95; Procter & Gamble Distributing Co., Cincinnati, bar soap, \$246.82; Bristol-Myers Co., New York, dentifrice, \$163.18; Lever Brothers Co., Cambridge, Mass., laundry soap, \$656.40; Procter & Gamble Distributing Co., Cincinnati, "Duz" and "Ivory" soaps, \$95.38; Lever Brothers, Cambridge, Mass., "Lux" toilet soap, \$423.36; Oakite Products Co., New York, compound, \$1.169; Barbasol Co., Indianapolis, "Barbasol" shave cream, \$46.08; Lever Brothers Co., Cambridge, Mass., soap chips, \$3,002.50; and Procter & Gamble Distributing Co., Cincinnati, "Camay" soap, \$60.25.

FWA Liquid Soap Bids

Among the bids received in a recent opening for miscellaneous supplies by the Office of Buildings Management, Public Buildings Administration, Federal Works Agency, Washington, D. C., were the following on 5,000 gallons of liquid toilet soap: Trio Chemical Works, Brooklyn,

\$1.575; Crystal Soap & Chemical Co., Philadelphia, \$1.575; R. M. Hollingshead Corp., Camden, N. J., \$1,642.50; Penetone Co., Tenafly, N. J., \$1,830 and Wm. Messer Corp., New York, \$2,204.

Justice Dept. Insecticide Bids

The following bids were received in a recent opening for 200 gallons of liquid insecticide by the Department of Justice, Lewisburg, Pa.: Capitol Chemical Co., Washington, \$2.45; Clarkson Chemical Co., Williamsport, Pa., \$2.35; Fort Pitt Chemical Co., Pittsburgh, \$1, drums included; Goulard & Olena, New York, \$1.30, packed in 55-gallon drums; McCormick & Co., Baltimore, \$1.36 and Trio Chemical Works, Brooklyn, \$1.25.

Miscellaneous P. O. Bids

The following bids were received in recent openings for miscellaneous supplies by the Post Office Department, Washington, D. C.: On 2,500 gallons of liquid furniture polish—Welman Mfg. Corp., Chicago, 68.5 cents a gallon; R. M. Hollingshead Corp., Camden, N. J., 49 cents; Imperial Products Co., Philadelphia, 51 cents; Industrial Distributors, New York, 49 cents; International Metal Polish Co., Indianapolis, 80 cents; Trio Chemical Works, Brooklyn, 51 cents; Uncle Sam Chemical Co., New York, 67 cents; C. P. Baker & Co., Philadelphia, 70 cents; Oil Specialties & Refining Co., Brooklyn, 47.7 cents; Penetone Co., Tenafly, N. J., 57 cents; Pioneer Div., Flintkote Co., Los Angeles, 60 cents; Ensign Products Co., Cleveland, \$1.25; Kirsch Co., Sturges, Mich., \$1.19 and Cole Laboratories, Long Island City, N. Y., 49 cents.

On 3,200 pounds of grit cake soap these bids were received: B. T. Babbitt, Washington, 4.5 cents a can; Unity Sanitary Supply Co., New York, 7 cents and Day & Frick, Philadelphia, 4.2 cents.

These bids were received on 17,000 pounds of metal polish: Unity Sanitary Supply Co., New York, 22 cents a pound; Wonder Chemical Co., Brooklyn, 7.49 cents a pound; Solarine Co., Baltimore, 10.75 cents; Oil Specialties & Refining Co., Brooklyn, 12.9 cents; Walter W. Miller Co., Indianapolis, 15 cents in 12 ounce jars; International Metal Polish Co., Indianapolis, 8 cents a pound and R. M. Hollingshead Corp., Camden, N. J., 12 cents.

The following bids were received on 34,000 pounds of scouring powder: Safford Co., Burnsville, N. C., 2.15 cents, fob Burnsville, and 2 cents, fob Atlanta; Unity Sanitary Supply Co., New York, 6.5 cents and Lavo Co. of America, Milwaukee, 3.69 cents.

On 73,500 pounds of ordinary bar laundry soap, these bids were received: Fisher Industries, Cincinnati, eight-ounce bars, \$7.50 per case of 100 bars and Standard Soap Co. of Camden, N. J., 6.75 cents a pound.

Panama Canal Soap Bids, Awards

In recent openings for miscellaneous supplies by the Panama Canal, Washington, D. C., the following bids were received on an unspecified quantity and style of soap and an unspecified quantity of grit hand soap: Eagle Soap Co., Brooklyn, \$206.25, accepted; Cudahy Packing Co., E. Chicago, Ind., \$275.40 and Unity Sanitary Supply Co., New York, \$337.50; on the grit hand soap, Eagle Soap Co., Brooklyn, \$110, accepted; Wm. Messer Corp., Brooklyn, \$220 and Unity Sanitary Supply Co., New York, \$280.

Dr. Zimmerman Joins Morton

Morton Chemical Co., Greensboro, N. C., has appointed Dr. B. G. Zimmerman as technical director, it was announced early in October. Dr. Zimmerman has been connected with the research division of General Aniline Dye Works, Grasselli, N. J., for the past eight years. He received his doctor's degree in organic chemistry from the University of Texas. Morton Chemical Co. is now completing work on the rebuilding and re-equipping of its plant following a fire in July, 1944.



schimmel

DEODORS

**A full line of deodorizing scents
to neutralize and perfume
sprays and deodorants.**

**SCHIMMEL & CO., INC.
601 WEST 26TH STREET
NEW YORK 1, N. Y.**

The following trade-marks were published in the October issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Mark Applications

NAMEL—This in lower case, bold letters on an oval at the top of a reverse rectangular design above the words "By The Makers of Windsor" for household cleaner for woodwork. Filed Mar. 19, 1945 by Windsor Wax Co., Hoboken.

SEYCO-SOL—This in upper case, medium letters for liquid cleaner for vitreous ware having deodorizing properties. Filed Apr. 25, 1945 by Seybold Paper Co., Cincinnati. Claims use since Mar. 25, 1945.

NELLIE GRAY—This in upper case, open letters for soap powder. Filed May 28, 1945 by Gray and Gray, Venice, Calif. Claims use since May 5, 1945.

HOMESTRETCH—This in upper and lower case, bold, script letters for brushless shave cream and shave soap. Filed May 30, 1945 by Garay Toiletries, Inc., New York. Claims use since May 7, 1945.

FABRIC-MAGIC—This in upper case, bold letters, the letters "fabr" above the letters "mag," and both rows of letters followed by the letters "ic" in oversize type equal in size to both rows formed by the preceding letters for liquid preparation for rendering fabrics repellant to moths, etc. Filed Jan. 3, 1945 by John M. Cain, of Hartford, Conn. Claims use since Dec. 26, 1944.

SPORTSMAN—This in upper case, medium letters for insect repellent. Filed Feb. 9, 1945 by John Hudson Moore, Inc., New York. Claims use since Jan. 15, 1945.

DIXIE RAT KILLER—This in extra bold, black, upper and lower case letters for preparation for exterminating mice and rats. Filed June 13, 1945 by Dixie Disinfecting Co., Dallas. Claims use since June, 1942.

FLOORLIFE CLEANER—This in upper case, bold, stencil letters for preparation for removing wax and varnish from floors. Filed Feb. 24, 1945 by L. Sonneborn Sons, Inc., New York. Claims use since 1930.

VAL-KEEN—This in upper case, bold, black, solid and shadow letters for floor, woodwork and furniture polish and wax. Filed Mar. 7 1945 by Oaks & Co., Chicago. Claims use since Sept. 15, 1944.

BUQUSEAL—This in upper case, extra bold letters for liquid cleaning, glazing and polishing material for automobiles, furniture, hardwood floors and other finished surfaces. Filed May 22, by Buquseal Co., Spokane. Claims use since Apr. 3, 1945.

GOLD SEAL—This in upper case, extra bold letters within an outline drawing of a seal for furniture polish. Filed Apr. 20, 1945 by Gold Seal Co., Bismarck, N. D. Claims use since Jan. 2, 1945.

PAM'S MAGNOSOL—This in upper and lower case, bold script and upper case, extra bold, block letters for liquid preparation for use in dishwashing and general cleaning. Filed Nov. 1, 1944 by Pam Products Co., Seattle. Claims use since Sept. 12, 1944.

ROBERT'S—This in upper case bold letters for liquid cleaner and stain remover for wearing apparel. Filed Apr. 28, 1945 by Globe Disinfecting Co., Inc., New York. Claims use since July 1, 1944.

EGGNOG—This in upper case, bold letters for shampoo. Filed Nov. 15, 1944 by Louis Napolitan, New York. Claims use since Feb. 15, 1944.

(Fanciful drawing of a cow with a large bow on her tail)—for stock insecticide. Filed June 9, 1945 by AG Chemical Products, Indianapolis. Claims use since Mar. 19, 1945.

TREM-TRED—This in upper case, extra bold, black letters for protective floor coatings in liquid form. Filed June 1, 1945 by Tremco Mfg. Co., Cleveland. Claims use since May 9, 1945.

MIRA-LUSTRE—This in upper case, bold letters for paste or semi-paste preparation to be applied to-leather as a polish and finish. Filed June 20, 1944 by K. J. Quinn & Co., Inc., Boston. Claims use since Mar., 1939.

WILCO—This in upper and lower case, bold, script letters for dry, cloth, hat, glove, handbag, scarf, upholstery, rug, drape, leather and typewriter type and roller cleaners. Filed May 1, 1945 by Wilco Co., Los Angeles. Claims use since July 29, 1944.

SCOOP—This in upper case, jumbo, open letters for soapless detergent. Filed May 15, 1945 by the F-R Corp., New York. Claims use since June 12, 1944.

DIRKLEEN—This in lower case, extra bold, black letters for soapless cleaning compound. Filed May 21, 1945 by Dir-Kleen Co., Chicago. Claims use since May 11, 1945.

"SWING SHIFT"—This in upper and lower case, open, script letters for hand cleaners. Filed June 21, 1945 by Harold Englehart, Akron, O. Claims use since July 7, 1944.

KAKTONA—This in upper case, bold letters for shampoo. Filed June 11, 1945 by Kaktine Co., Glendale, Calif. Claims use since May 29, 1945.

ARTFIELD CREATIONS—This in upper case letters for brushless shave cream, shaving soap and shaving sticks. Filed June 2, 1945 by Irene Blake Cosmetics, Inc., New York. Claims use since Jan., 1940.

TURKOY—This in upper case, extra bold letters for detergent and cleaning compounds. Filed June 22, by Ludwig Wilson Co., Chicago. Claims use since Dec. 31, 1932.

DE-TER-JAL-IZED—This in lower case, bold letters for shampoo. Filed Feb. 28, 1945 by Raymond Laboratories, Inc., St. Paul. Claims use since Jan. 24, 1945.

SPOAM—This in upper case, extra bold, black letters for shampoo. Filed Mar. 30, 1945 by Bristol-Myers

BASIC SOAP OILS • BASIC SOAP OILS

GERANIUM • LAVENDER • LEMON • PINE

BASIC SOAP OILS • BASIC SOAP OILS

LAVENDER

BASIC SOAP

LEMON • PINE

BASIC SOAP

PINE • YLANG

THESE basic soap oils are low priced, well fixed, stable and non-discoloring. They are excellent for blending and compounding and may be used either alone or in combination with the natural oils. They assure characteristic odor effects at very substantial savings and are recommended especially for use in popular priced toilet soaps and soap powders. We'll gladly supply test samples if requested on your letterhead.

BASICOL GERANIUM

BASICOL LAVENDER

BASICOL LEMON

BASICOL PINE

BASICOL YLANG



FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK 11, N.Y.

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D.F.
FACTORIES AT CLIFTON, N. J. AND SILLMAN (VARI) FRANCE

BASIC SOAP OILS • BASIC SOAP OILS

YLANG • GERANIUM • LAVENDER • LEMON

BASIC SOAP OILS • BASIC SOAP OILS

Co., New York. Claims use since May 7, 1945.

ISOTHAN Q-15—This in upper case, bold, and extra bold black letters for fungicide for agricultural use. Filed June 21, 1945 by Onyx Oil & Chemical Co., Jersey City, N. J. Claims use since May, 1943.

NYTRON—This in upper case, extra bold letters for wetting agent. Filed June 22, 1945 by Solvay Process Co., New York. Claims use since Apr. 3, 1945.

U-2—This in upper case, extra bold letters for automobile polish. Filed Jan. 1, 1945 by Wards Products, Southgate, Calif. Claims use since Oct. 24, 1944.

"FLOOR-ADORABLE"—This in upper and lower case, bold letters for floor wax. Filed Apr. 9, 1945 by Twin City Shellac Co., Brooklyn. Claims use since Mar. 20, 1945.

P.D.W.—This in upper case, bold letters within the outline of a diamond for floor wax. Filed June 27, 1945 by Purity Dance Wax Co., Sedalia, Mo. Claims use since 1940.

Trade Marks Granted

415,987. Insecticides. Filed by Andrew Wilson, Inc., Springfield, N. J., Mar. 7, 1945. Serial No. 480,636. Published June 12, 1945. Class 6.

415,998. Preparation for killing fleas, lice, sticktite, ticks, bedbugs, etc. Filed by Nott Manufacturing Co., Mt. Vernon, N. Y., Mar. 14, 1945. Serial No. 480,904. Published June 5, 1945. Class 6.

416,016. Spray concentrate for destroying roaches, water bugs, ants and other insects. Filed by Dallas Chemical Sales Co., Buffalo, N. Y., Apr. 3, 1945. Serial No. 481,665. Published June 12, 1945. Class 6.

416,019. Measuring or testing machines to determine efficiency of scouring or cleaning powder. Filed by Grant Advertising, Inc., Dallas, Apr. 6, 1945. Serial No. 481,784. Published June 5, 1945. Class 26.

416,189. Disinfecting solution. Filed by New Products Laboratories, Chicago, Mar. 15, 1943. Serial No. 459,140. Published June 8, 1943. Class 6.

416,195. Antiseptic, germicide and deodorizer. Filed by The Oakland Chemical Co., New York, Sept. 11, 1943. Serial No. 463,357. Published June 26, 1945. Class 6.

416,201. Insect repellent ointment. Filed by Nott Manufacturing Co., Mount Vernon, New York, Jan. 14, 1944. Serial No. 466,573. Published June 26, 1945. Class 6.

416,221. Agricultural parasiticide. Filed by California Spray-Chemical Co., Richmond, Calif., July 22, 1944. Serial No. 472,502. Published Jan. 16, 1945. Class 6.

416,225. Liquid rodent repellent. Filed by Nash & Kinsella Laboratories, Inc., St. Louis, Feb. 24, 1945. Serial No. 480,183. Published July 3, 1945. Class 6.

416,226. Household cleanser. Filed by Lumar Products Co., Bridgeport, Aug. 24, 1944. Serial No. 473,568. Published July 26, 1945. Class 4.

416,236. Liquid air purifier and deodorant. Filed by John C. Stalford & Sons, Inc., Baltimore, Oct. 17, 1944. Serial No. 475,403. Published June 26, 1945. Class 6.

416,251. Blocks of paradichlorobenzene used as moth preventive and deodorant. Filed by Koppers Co., Kearny, N. J., Dec. 23, 1944. Serial 477,889. Published June 26, 1945. Class 6.

416,265. Household cleaning preparations. Filed by Charles E. Berning, Toledo, Jan. 22, 1945. Serial No. 478,849. Published June 19, 1945. Class 4.

416,271. Preparations for athlete's foot. Filed by Prucide Laboratories, Brooklyn, Jan. 31, 1945. Serial No. 479,260. Published June 19, 1945. Class 6.

416,292. Roach powder. Filed by Mono Chemical Co., Chicago, Feb. 19, 1945. Serial No. 479,983. Published June 26, 1945. Class 6.

416,354. Ingredient used in the manufacture of insecticides. Filed by McConnon and Co., Winona, Minn., Apr. 16, 1945. Serial No. 482,210. Published June 26, 1945. Class 6.

416,608. Soap. Filed by Lanman & Kemp-Barclay & Co., New York, Sept. 3, 1943. Serial No. 463,207. Published July 17, 1941. Class 4.

416,620. Cleaning compound in powdered form for use in cleaning milk cans. Filed by Diversey Corp., Chicago, Apr. 17, 1944. Serial No. 469,385. Published July 10, 1945. Class 4.

416,669. Toilet soap. Filed by Helene Pessl, Inc., New York, Dec. 9, 1944. Serial No. 377,367. Published Mar. 6, 1945. Class 4.

416,678. Soap and shaving cream. Filed by John T. Stanley Co., New York, Jan. 11, 1945. Serial No. 478,523. Published July 17, 1945. Class 4.

416,694. Detergent preparation. Filed by Shell Union Oil Corp., San Francisco, Jan. 26, 1945. Serial No. 479,052. Published July 10, 1945. Class 4.

416,706. Soap for cleaning glass, metal, cloth and linoleum. Filed by Day & Frick, Philadelphia, Feb. 20, 1945. Serial No. 480,011. Published July 3, 1945. Class 4.

416,712. Soft soap concentrate. Filed by Milton B. Sleeper, Great Barrington, Mass., Feb. 24, 1945. Serial No. 480,207. Published July 17, 1945. Class 4.

416,713. Self-buffing, liquid wax emulsion for use on floor. Filed by L. Sonneborn & Sons, Inc., New York, Feb. 24, 1945. Serial No. 480,210. Published July 10, 1945. Class 16.

416,714. Detergent and wetting agent. Filed by L. Sonneborn & Sons, Inc., New York, Feb. 24, 1945. Serial No. 480,212. Published July 17, 1945. Class 4.

416,718. Detergent for general industrial use. Filed by National Oil Products Co., Harrison, N. J., Mar. 3, 1945. Serial No. 480,469. Published July 17, 1945. Class 4.

416,728. Soap flakes, granulated soap, soap powder, bar soap, detergent powder, and dishwashing compound. Filed by Pioneer Soap Co., San Francisco, Mar. 13, 1945. Serial No. 480,875. Published July 10, 1945. Class 4.

416,730. Detergent used as an aid to soap. Filed by F. E. Everson, New York, Mar. 16, 1945. Serial No. 480,891. Published July 10, 1945. Class 4.

(Turn to Page 78)

Hooker Acid Chlorides Meet a Wide Range of Needs

WHILE the Hooker chemicals listed below are all acid chlorides, their properties and characteristics are such that among them you will find chlorinating agents and intermediates for the manufacture of dyestuffs, plasticizers, and a wide variety of other organic compounds. Whether you work with soaps or dyes, with pharmaceuticals or lubricants, if you use chemicals, some of the acid chlorides may make your work easier.

Brief descriptions and some of the uses of these acid chlorides are given below. Technical Data Sheets and samples will be furnished when requested on your letterhead. For more information consult our Technical Staff for help on how Hooker Chemicals can solve your specific problems.

HOOKER RESEARCH Presents TETRAHYDROFURFURYL OLEATE



Here is a recently developed Furfural derivative that is winning a place for itself in the plastics field. Chemists working with plastics will find this Hooker chemical an excellent plasticizer for imparting flexibility at low temperatures to polyvinyl chloride. It is also used as a plasticizer with other film-forming materials. It is a yellow to light brown oily liquid. Boiling range at 16 mm is 200° to 285°C. It is insoluble in water, soluble in alcohols, esters, ketones, hydrocarbons and chlorinated solvents. Tetrahydrofurfuryl Oleate is now available in commercial quantities. Samples and Technical Data Sheet 343 will be furnished gladly when requested on your letterhead.

PRODUCT

Chemical Formula and
Molecular Weight

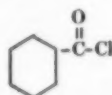
Acetyl Chloride
 CH_3COCl ; 78.5



DESCRIPTION & USES

Clear, colorless to pale yellow liquid. B. R. 5° incl. 51°C. To introduce acetyl group into organic compounds. Manufacture of intermediates, dyes, and pharmaceuticals. Reagent in manufacture of sulfonated fatty bodies.

Benzoyl Chloride
 $\text{C}_6\text{H}_5\text{COCl}$; 140.5



Clear, colorless liquid. Boiling point 198°C. To introduce benzoyl group into organic compounds. Manufacture of benzoyl peroxide, benzophenone, benzyl benzoates, synthetic perfumes, dyes, pharmaceuticals.

Carbonyl Chloride
(Phosgene)
 COCl_2 ; 98.9

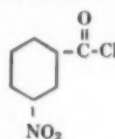


Liquified gas. F. P. -126°C. B. P. 8.2°C. Manufacture alkyl and aryl chlorocarbonates and dicarbonates; Michler's ketone; dye intermediates; metal chlorides and anhydrides; pharmaceuticals; perfumes.

PRODUCT

Chemical Formula and
Molecular Weight

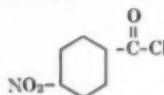
Metanitrobenzoyl Chloride
 $\text{C}_6\text{H}_4\text{NO}_2\text{COCl}$; 185.5



DESCRIPTION & USES

Yellow to brown liquid partially crystallized at room temperature. Last crystal point 28° to 31°C. Manufacture of dyes for fabrics and color photography; pharmaceuticals.

Paranitrobenzoyl Chloride
 $\text{C}_6\text{H}_4\text{NO}_2\text{COCl}$; 185.5



Yellow crystalline solid. M. P. 70°C minimum. Manufacture of novocaine; dyes.

Sulfuryl Chloride
 SO_2Cl_2 ; 135.0



Light yellow liquid. B. R. 2° incl. 69.1°C. Reacts with organic acids to form other chlorides and anhydrides. Chlorinating agent to produce chlorophenol and other chlorination reactions in organic synthesis.

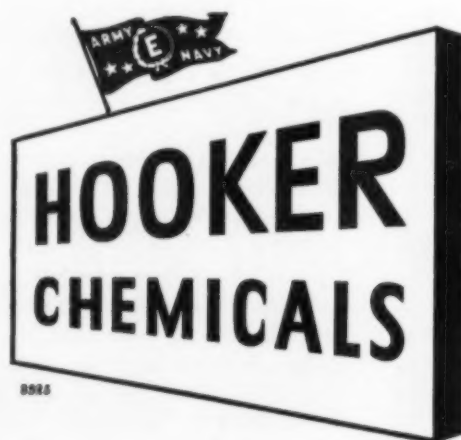
Thionyl Chloride
 SOCl_2 ; 119.0



Clear, yellow to red liquid. B. R., refined grade, 75° to 78°C. Manufacture organic and chlorides and anhydrides, alkyl chlorides from corresponding alcohols.

Butyryl Chloride
Propionyl Chloride

Caprylyl Chloride
Pelargonyl Chloride



**HOOKER
ELECTROCHEMICAL
COMPANY**
Buffalo Ave. & Union Street
Niagara Falls, N. Y.

Caustic Soda
Paradichlorobenzene

Muriatic Acid
Chlorine

Sodium Sulfide
Sodium Sulfhydrate

As of October 31, 1945

THERE will be no material improvement in the fats and oils situation much before 1947 is the tone of authoritative reports that have been issued lately on the subject. The broad outlines of the picture are about as follows: Exports—continuing heavy, as compared with pre-war years, but slightly below 1945 levels; imports—probably less than last year, and less than half of normal pre-war years; demand—still heavy, will be at about the 1945 level with many reconverted heavy industries competing with soap makers for fats and oils.

1.) Exports. The U. S. Department of Agriculture's forecast is that exports of lard and soybeans from the United States to Europe in 1946 are

likely to be larger than prewar, but total exports of fats will be considerably reduced from 1945. Although our exports to Europe will be cut, olive oil exporting countries in the Mediterranean area instead of exporting any oil to the United States will send most of it into Europe, which has suffered from a severe shortage of fats and oils. In addition, present estimates may have to be revised upwards as the year progresses, and suffering becomes more acute during the winter in Europe. However, the Department of Agriculture thinks that in 1946 the United States may have a net import balance in fats and oils for the first time since 1941.

2.) Imports. It is now being predicted that it will be 1947 before net imports into the United States ap-

proximate the 1.5 billion pound pre-war yearly average. Shipments from the Argentine and other South American countries will be down due to sustained drought and other unfavorable weather conditions which have reduced considerably the size of crops of oil bearing plants during last crop season. In addition, exports of fats and oils from Asia, Africa, Australia, New Zealand and the Pacific Islands, and the production of whale oil in the Antarctic in 1945 are estimated at only 4.3 billion pounds by the Department of Agriculture.

Although some coconut oil was brought in from the Philippines recently, enough incidentally for about three kettles, according to the large soaper who received it, no substantial amounts are expected from the Philip-

ACKNOWLEDGED HIGHEST QUALITIES

STEARIC ACID

(DISTILLED)

CAKE, FLAKE AND POWDERED
TECHNICAL AND U.S.P. GRADES

OLEIC ACID

(RED OIL)

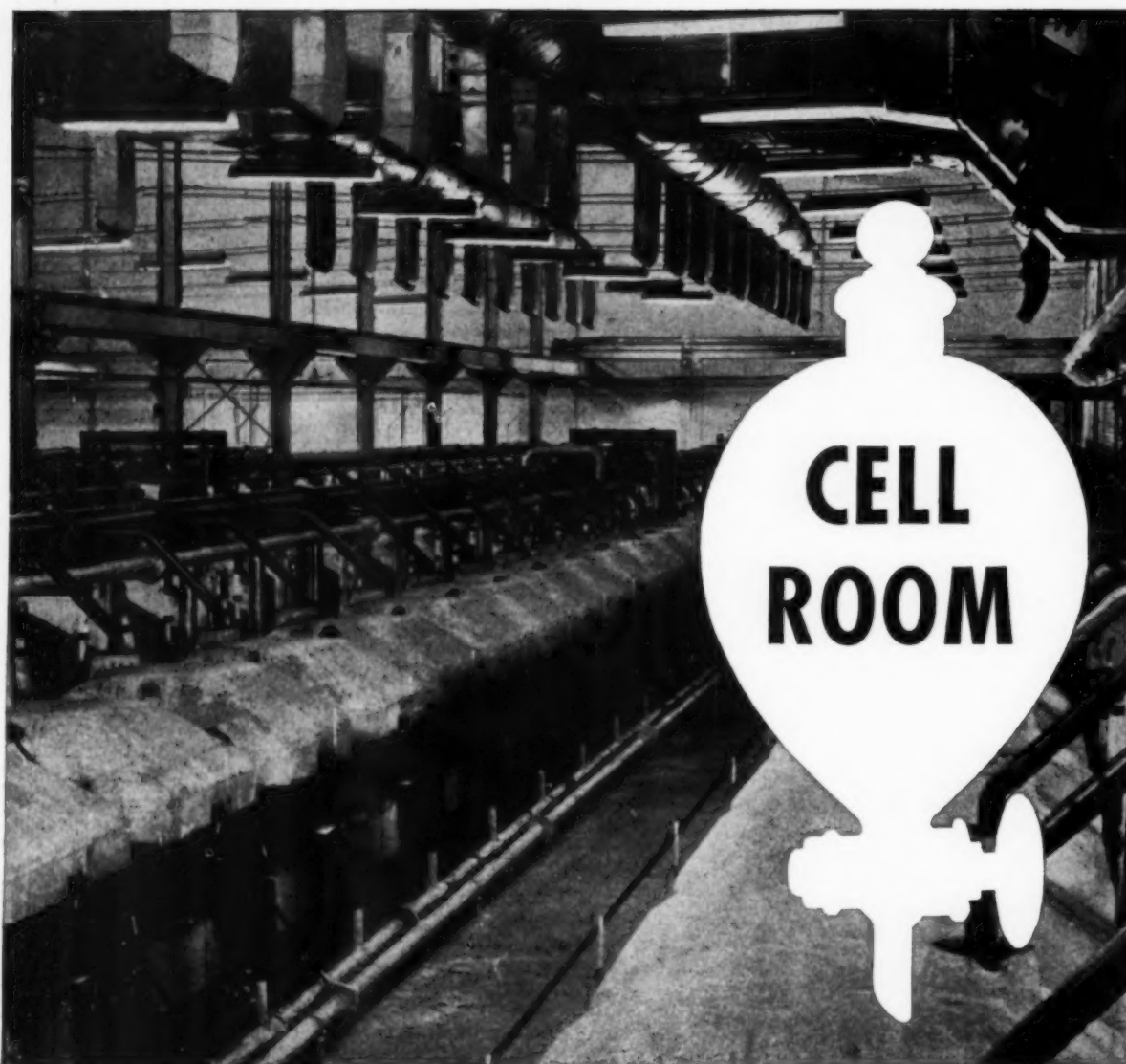
REFINED TALLOW
FATTY ACIDS

WHITE OLEINE U.S.P.
DOUBLE-DISTILLED

Manufacturers Since 1837

A. GROSS & CO.

295 Madison Avenue, New York 17, N. Y.
Representatives in Various Cities



• Cell room in a Chlorine plant of the Wyandotte Chemicals Corporation at Wyandotte, Michigan. Except for the hum of the enormous electric voltage, stillness reigns here. It's truly a deathly stillness—for Wyandotte Chemicals Corporation Chlorine is at present government-allocated and largely devoted to the uses of war.

WYANDOTTE CHEMICALS CORPORATION

ONE OF THE WORLD'S GREAT PRODUCERS OF CHEMICALS

SODA ASH
CAUSTIC SODA
BICARBONATE OF SODA
CALCIUM CARBONATE

CALCIUM CHLORIDE
CHLORINE
HYDROGEN
SODIUM ZINCATES

AROMATIC INTERMEDIATES
DRY ICE
Other Organic and
Inorganic Chemicals

WYANDOTTE CHEMICALS CORPORATION
MICHIGAN ALKALI DIVISION • WYANDOTTE, MICHIGAN



Wyandotte
REG. U. S. PAT. OFF.

pires for some time. Coconut that did come in during the war was mainly from the island of Ceylon and went into government stockpiles and was used for only the most essential purposes, it was reported. Most of what coconut is now being used is from government stockpiles that were reduced following V-J Day. Besides other difficulties, such as transportation, in obtaining coconut oil from the Philippines, the fact that there is such a complete lack of consumer goods for sale in the islands, makes money practically meaningless. As a result workers on the plantations don't see much point in working since there are no goods for their money to buy. If this situation could be remedied, and if military equipment such as landing craft, jeeps, and amphibious, sea-going vehicles such as "Alligators," so admirably adapted for inter-island copra collection work, could be put to work it is thought we might be getting copra and coconut oil out of the Philippines fairly soon. On the other hand, contrary to popular reports, authoritative sources indicate that the

quantity of copra made during and left after the Jap occupation is not great.

Meanwhile, in this country two bills have been presented in Congress relating to trade relations with the Philippines and quotas and tariffs on coconut oil. On Oct. 18, Millard Tydings, senator from Maryland, introduced a bill that covers war damage and future trade relations with the Philippines. This bill, H.R. 1488, favors leaving import regulations as they are for two or three years, and, at the end of that time, gradually increase tariffs and reduce tariff-free quotas to nothing. The other bill, the Bell bill, H.R. 4185, which was introduced recently relates only to regulations governing the tariff on coconut oil. It is in the hearing stage and is expected shortly to be reported on by the House committee.

Other market developments affecting soap makers, which were announced recently concern soda ash, caustic and chlorine, all of which will remain at their present price levels in 1946, according to Solvay Sales Corp.,

New York. A ceiling price for olive oil foots of 17 cents a pound was announced by the OPA, effective Oct. 22, with issuance of Amendment 51 to MPR-53. The ceiling on imports is the same, f.o.b. port of entry with duties and taxes paid. One cent a pound may be added for sale in non-returnable drums, the OPA stated.

Another important action taken during the month was the revocation of ceilings on such imported vegetable waxes as carnauba, ouricury, candelilla and imported and domestic beeswax. New quotations are reported to be 15 to 20 cents above what local importers were allowed to pay under former regulations.

Essential oils, such as French lavender, Italian bergamot and palmarosa oil from India showed a tendency to advance in price as the pricing highlights of the month. From the supply standpoint an encouraging sign was a report to the effect that certain heretofore unavailable oils would be returning on the market within a month. Release of essential raw materials made this possible.

RAW MATERIALS FOR THE SOAP INDUSTRY

COCOANUT OIL

VEGETABLE OIL FATTY ACIDS

ANIMAL AND FISH OIL FATTY ACIDS

THE LAMEPONS—Unique surface active agents for cosmetic and industrial use

QUADRAFOS—A stable polyphosphate for water conditioning and effective detergency

Castor Oil
Corn Oil
Cottonseed Oil
Olive Oil

Olive Oil Foots
Peanut Oil
Rapeseed Oil
Sesame Oil
Boric Acid
Modified Soda

Tall Oil—
Refined & Crude

Soya Bean Oil
Fatty Acids
Lard Oil
Neatsfoot Oil

Silicate Soda
Metasilicate
Tri Sodium Phosphate

Oleo Stearine
Stearic Acid
White Olein
Tallow

Grease
Lanolin
Caustic Soda
Soda Ash

Di Sodium Phosphate
Chlorophyll
Superfating Agent

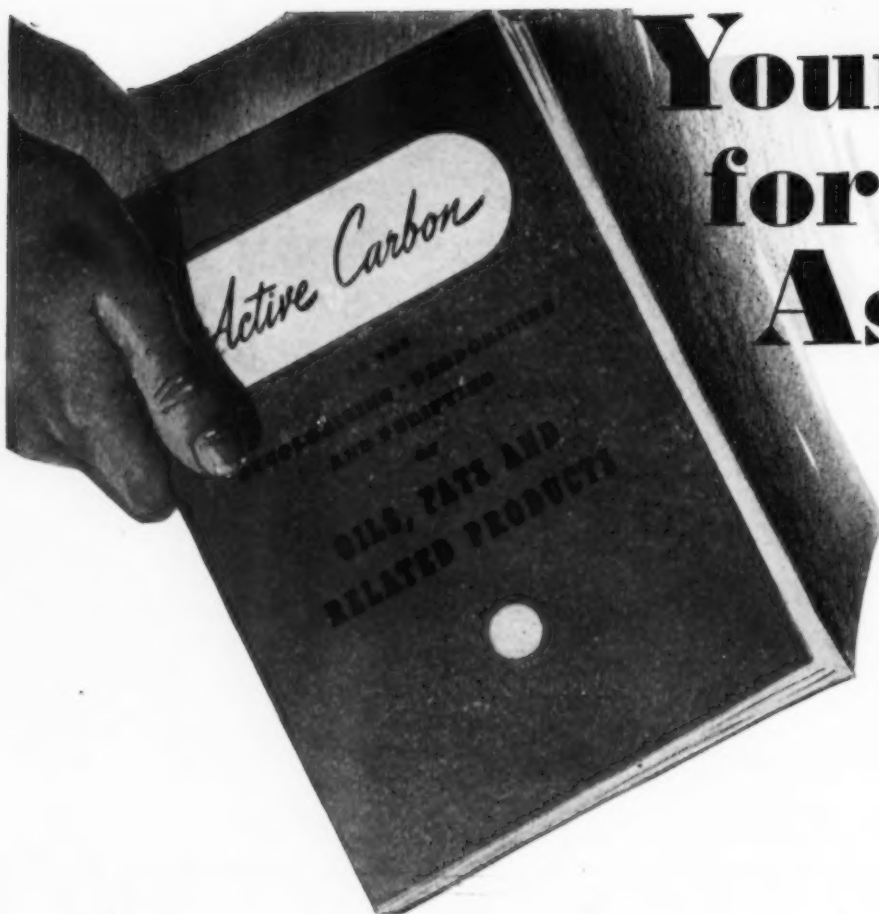
Borax
Caustic Potash
Carbonate Potash
Sal Soda

Dry Alkali Mixtures

We compound your formulas. Let us handle this operation for you.

Petrolatum
White Mineral Oil

WELCH, HOLME & CLARK CO., Inc.
563 GREENWICH STREET ESTABLISHED 1838 NEW YORK CITY



Yours for the Asking

Here's an interesting booklet you should have. It's crammed full of valuable data on the decolorizing, deodorizing and purifying of oils, fats and related products.

It was prepared with the intention of giving you factual information in a concise manner. It discusses the technology of applying activated carbon; what it does and how it works—in eight “easy to read” chapters.

Send for this valuable booklet today. Write our nearest office. You will receive it by return mail.

	INDUSTRIAL CHEMICAL SALES			
	DIVISION WEST VIRGINIA PULP AND PAPER COMPANY			
230 PARK AVENUE NEW YORK 17, N.Y.	35 E. WACKER DRIVE CHICAGO 1, ILLINOIS	748 PUBLIC LEDGER BLDG. PHILADELPHIA 6, PA.	844 LEADER BLDG. CLEVELAND 14, OHIO	

Bleaching in the Soap Plant

NUMEROUS agents have been recommended for bleaching fats and soaps, some of which are inconvenient to use, while others require special treatment to effect the removal of by-products of the bleaching action. Of the per compounds, hydrogen peroxide, benzoyl peroxide, ammonium persulfate, sodium percarbonate, sodium perpyrophosphate and zinc persulfate have been recommended.

Hydrogen peroxide has the advantage of decomposing entirely when an excess is used. Benzoyl peroxide is desirable because of its solubility in oil, as it forms a homogeneous mixture with the fat and thus acts more intimately on the coloring matter present. Benzoyl peroxide on decomposition leaves a small amount of benzoic acid in the oil, which may be removed by agitating with a rapid stream of air at an elevated temperature. It is possible that small quantities of other decomposition compounds are produced but the amount should be so little as to be of minor importance.

Use of lauroyl peroxide offers an interesting possibility, as it decomposes into active oxygen and lauric acid, which of course is readily saponified by the addition of a small amount of caustic soda, to form the soap, sodium laurate. Persulfates have been used successfully for bleaching soap after saponification and salting out. Since both oils and fats and soaps vary from time to time, it is impossible to develop a single satisfactory bleaching process. In all bleaching, vats made of iron or copper should be avoided,

since contact with these metals decomposes peroxy compounds.

Hydrogen Peroxide Bleaching

Although no one method may apply universally, a procedure can be described which is more or less basic, and which can be varied to meet the conditions. Add 1-2 per cent by weight of 100-volume hydrogen peroxide to the oil maintained at a temperature of 160°F. for about 6 hours. This can be used for palm oil, semi-palm oil, palm-oil softs, palm-kernel oil, and filtered whale and sperm oils. Sometimes the time can be cut in half, depending on the oil itself. A vigorous stream of air is blown through the oil to exert an additional oxidizing effect and aid the work of the hydrogen peroxide. A 100-volume hydrogen peroxide corresponds to a concentration of 30 per cent by volume. The first designation refers to the amount of available oxygen.

Another method is to use a bleaching earth first, followed by treatment of the oil with 60 per cent hydrogen peroxide. It has been claimed that dark soybean oil, coconut oil, and marine animal oils resistant to ordinary bleaching, may be bleached by this method, with an accompanying improvement in odor. The reverse of this is recommended in a French patent, by which preliminary treatment of the oil with 0.5 per cent of 100-volume peroxide is followed by agitation with 0.66 per cent of a bleaching earth and 0.33 per cent of activated charcoal at 95°C. (203°F.)

In U. S. Patent No. 2,158,163, tallow is bleached by an acid wash, followed by agitation with fuller's earth

and a small amount of activated carbon, after which the tallow is filtered. The bleaching agent consists of a combination of sodium nitrate and hydrogen peroxide, added to the filtered fat at 60°C. (140°F.) to keep it in a liquid state.

Bleaching with Benzoyl Peroxide

The method is somewhat similar to peroxide bleaching of oils, and has been applied to corn, peanut, soybean, rapeseed and cottonseed oils. The oils are heated to 160° F. and 0.25-1 per cent of benzoyl peroxide added. The oil is kept at this temperature with constant agitation until bleaching is complete, which may require 3 to 6 hours. Agitation with compressed air is very satisfactory. Benzoyl peroxide is said to be the most efficient decolorizing agent for green oils, being much more effective than chlorates plus acid.

Soap Bleaching with Persulfate

Persulfates may be used to bleach the soap itself, preferably after thorough salting out and settling. Potassium persulfate is not readily soluble in water, but with a low concentration and high temperature, this is overcome. Ammonium persulfate, on the other hand, is easily soluble, but liberates ammonia during the treatment, which may be an objection under some conditions. Palm-oil soap, diluted to 20 per cent concentration, has been bleached after saponification and salting out, at 90°C. (194°F.) with 0.5 per cent of potassium persulfate, calculated on the anhydrous soap content, in the presence of twice the theoretical quantity of alkali required to neutralize the sulfuric acid liberated on decomposition of the per-



TALK about Lanolin to the average drug store customer, and what's the reaction? **SPLENDID!!**

While most folks *believe* Lanolin adds something to a product, our researchers can prove that the use of Nimco Brand Lanolin will result in a *better* product . . . a product with a talking point . . . with extra sales appeal.

If you haven't studied the potent possibilities

of product improvement available through the use of Nimco Brand Lanolin, this is the time to begin your experiments.

The facilities and the know-how that have made Malmstrom America's Largest Supplier of Lanolin and Degras are available to you, together with samples, should you prefer to conduct your own tests.



**America's
No. 1 Choice
Because It's
5 WAYS
BETTER**

1. **LOWEST ODOR VOLUME**
2. **GREATER UNIFORMITY**
3. **BETTER COLOR QUALITY**
4. **SMOOTHER TEXTURE**
5. **FINER BODY CONSISTENCY**

N. I. MALMSTROM & CO.

America's
Largest
Suppliers of

LANOLIN • Anhydrous U.S.P. • Hydrous U.S.P. • Absorption Base • Technical
DEGRAS • Neutral and Common • **WOOL GREASES**

147 LOMBARDY STREET • BROOKLYN, NEW YORK

sulfate; one molecule of persulfate gives one molecule of sulfuric acid. This method was found more effective than use of hydrogen peroxide. Persulfates also bleached olive-oil soap prepared from a high-grade oil, but only changed the color on an olive-oil foot soap. With tallow soaps persulfate gave only a light bleaching.

Phosphate Bleaching

The use of sodium perpyrophosphate is described in U. S. Patent No. 2,250,203. The method comprises treatment of cottonseed oil, for example, at 50-100°C. (122-212°F) and then agitating while slowly adding a perpyrophosphate sufficient to bring about bleaching over a period of time.

Essentially, any method of bleaching requires some study on the part of the user to establish the optimum concentration of bleaching agent and the best conditions for efficient use. Experience is of as much value as knowing what has worked for someone else. K. W. Richmond. *Soap Perfumery and Cosmetics*, August 1945.

Decolorizing Oil

Coloring material is contained in oils as a highly dispersed, positively charged colloidal suspension. A negatively charged suspension will act as a precipitating agent. Any oil-soluble metal compound that reacts with an alkaline agent to form the oxide or hydroxide of the metal can be used to form such a negatively charged suspension. Chromic sulfate and aluminum sulfate have given good results in decolorizing cottonseed oil. J. T. Bergeund. *Actas y trabajos Congr. peruano quim.* 2, II, 197-201; through *Chem. Abs.*

Wool Scouring

The bulk of impurities may be removed from wool by scouring, or by dry-cleaning followed by scouring. However, some wool samples do not scour readily even under the best conditions. Such samples can be cleaned thoroughly by drying the scoured wool, giving a mild opening action by hand, and then rescouring mildly in a single bath at 120° F. followed by a

rinse. G. C. LeCompte, M. R. Coe and B. L. Gold. *Am. Dyestuff Reporter* 34, 383-4 (1945).

Post-war Soap Problems

It is expected that the war years will reflect themselves in increasing the per capita consumption of soap in our country. For years this consumption has outdistanced that of any country by a wide margin. During the war years the standard of living has been heightened, both by training in our Army and Navy, and by higher incomes among civilians. Germicidal soaps will probably play a significant role as soon as production is again established on a peace-time basis.

Glycerine consumption and recovery in future years is of great import to soapers. Prior to the war it has been estimated that but 60 per cent of the available glycerine in fats and oils used in soap-making, was re-

covered. War-time demands for glycerine required the percentage to be brought up to 90 per cent or better. This means that greatly improved methods for recovery, which will be carried into the future, have been devised and are resulting in greater quantities of the product. E. G. Thomssen. *The Givaudanian*, Sept. 1945.

Palm Oil Fats

The fat in the thin brown testa of the palm kernel contains more oleic and linoleic acids, and less lauric acid, than that of the endosperm. Linoleic acid amounts to 5 per cent or more, and oleic acid to 20-25 per cent of the total fatty acids. The corresponding proportions in the endosperm fat are about 1 per cent and 11-12 per cent. H. A. Carsten, T. P. Hilditch and M. L. Meara. *J. Soc. Chem. Ind.* 64, 207-9 (1945).

Cation-active Shampoos

The quaternary ammonium compounds and other cationic surface-active agents are generally effective in controlling bacteria, fungi, and even insects. The more outstanding compounds with respect to this property will inhibit bacterial growth at concentrations of less than 1:100,000; growth of fungi is inhibited at a somewhat higher concentration. Bacteria such as *Staphylococcus aureus* and *Eberthella typhosa*—standard test organisms—are killed in less than 10 minutes at concentrations below 1:10,000. Germicidal activity varies with the pH of the medium; also it is usually adversely affected by the presence of anionic agents.

Because of their effectiveness and mildness these compounds are displacing older products as hospital disinfectants and will no doubt find increasing use as household disinfectant, now that the end of the war makes them more readily available.

As Shampoo

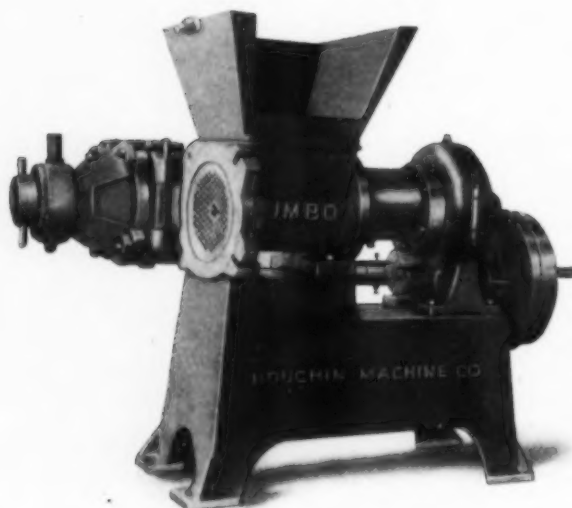
An especially promising application is as a hair shampoo, which represents a radical departure from current practice. In common with the better anionic synthetic detergents,

some of the quaternary ammonium compounds have good foaming properties and may be used in hard water. They rinse easily and leave no undesirable film on the scalp. The hair acquires luster and softens but is not excessively defatted.

Specifically, a shampoo containing 17 per cent of active ingredient has been tried and proved interesting. It does not lather quite as much as a shampoo made from anionic wetting agents, but it leaves the hair with a soft feel, besides sterilizing the scalp, insofar as the skin surface can be sterilized. Such a shampoo should have many potentialities, particularly in the field of use for irritated psoriatic and injured scalp.

While certainly no competitor of ordinary soap or of the more common synthetic detergents, because of high cost, cationics may be used in cases of unusual skin sensitivity where low pH and freedom from fatty acids are indicated, as well as where antiseptic action is desired. The price of these compounds may be expected to drop as research studies and manufacturing techniques make improved methods of production possible. H. W. Zussman, PP. 54-5, also p. 39, *Am. Perfumer*, Sept. 1945.

Showing the New More Powerful



HOUCHIN PLODDER

This powerful plodder has a heavier drive with alloy steel shaft and stronger gears that will prevent many breakdowns when excessively stiff materials are being processed.

This machine is a war baby, designed to handle a special Army-Navy Soap that changes consistency during processing from semi-liquid to concrete hardness four times within twenty minutes.

Made in sizes 4", 8" and 10"

INCLUDED IN THE HOUCHIN LINE

CHIPPERS

AMALGAMATORS

MILL PLODDERS

CUTTING TABLES

CRUTCHERS

CAN-TOP SEALERS, ETC.

SLABBERS

HOUCHIN

MACHINERY COMPANY, INC.

Fifth and Van Winkle Avenues

Hawthorne

New Jersey

PRODUCTION

Clinic

By DR. E. G. THOMSEN, PH.D.

THE other day a group of production men were discussing the topic of visitation of plants. It was extremely interesting to listen to the slants which different individuals had with regard to various phases of this subject. It was quite generally agreed, however, that much benefit was derived by going through various plants and that such excursions should be more general. Those plants which prohibited visitors came in for much criticism and some of these men vouched the opinion that such restrictions were due more to the fact that the operators were ashamed of the condition of their plants rather than feeling that they possessed any wonderful secret processes or equipment.

There is no questioning that visits to plants, be they in the same line of business or in other allied lines, are most beneficial to men in the production end of industry. Such excursions give the same education to them as travel does for any individual. Unless factory men get away from their humdrum work occasionally, they become narrow and provincial. To get away from their own plant and visit another, especially in company with another production man, is a good tonic. It results not only in benefiting the visitor but also the host. If one watches such men together in a plant, one will see them tarry quite often at some point to watch and discuss operation of a machine. Listening in on such a discussion, one would probably hear the talkers explaining or debating the best way to carry on a process. Such



contacts result in new interests to these men and in more efficient plant production. It is really a constructive step then, to require plant men to visit other plants. Many companies already do encourage this. At times it is done without identifying the visitors. This is a mistake as there is a bond of interest established when production men know they are members of the same craft.

In many cases industrial concerns are so proud of their plants that they permit and encourage lay visitors to go through their factories. They consider it good advertising and a means of building up consumer friendliness. Special guides are provided, samples given away and even refreshments are served. This is an excellent idea which has been more or less limited in its scope during the war years. We all like to show off the work of our brains and hands. Then it is only natural that if we have a clean, effi-

cient, busy factory we take pride in displaying this to others. Undoubtedly, the association of seeing how things are made, in conjunction with the product results in increased use of the product. A lot of free and effective word of mouth advertising results. Speaking from many personal experiences in this regard, I know that when I purchase certain items, I am favorably disposed to buy those I have seen made under proper conditions.

Factory employees also derive considerable good from these visits. Some manufacturers are deterred from this policy because they fear that there will be too much diversion of attention resulting in a slowdown of operations. This is fallacious. For a day or two employees may center their attention upon the visitors, but they soon become as accustomed to seeing such groups going through the plant. Efficient guides ask the visitors not to converse with the help nor to touch any machinery.

It hardly need be said that on visits like these even factory executives may derive a lot of information. They certainly will see far more than the ordinary person and also get an opportunity now and then to make inquiries regarding points of interest.

As to plants which prohibit visitors of any kind, we agree with the opinion on the whole, that they may have more reason to be ashamed of their plants than to try to cover up some great secret. If a plant is really carrying out some secret process or operation, there are better ways of covering up than by banning persons going through the plant. One way is to detour such a procedure. Another is to pass it by without comment or pausing.

The question of plant visitation is one of interest to all factory men and whereby much mutual help can be obtained if it is properly pursued. Such a procedure is to be promoted.

Liquid Processing Equipment

The F. R. Hormann Company of Brooklyn, make a line of disk filters, pressure filters, laboratory filters, stainless steel and glass lined, small sized tanks, portable mixers and portable

Sargent's latest . . . **SOAP CHIP DRYER**



YOU will be interested in seeing two views of a recent installation of the latest SARGENT Dryer and Chilling Roll as set up and operating.

- Our engineers have developed a Roll and Dryer that delivers just what the Trade demands . . . **extremely thin, smooth chips!**
- The drives are of the variable speed control type. Designed for compactness and accessibility. The unit requires only the minimum of steam and power.
- Write to SARGENT today for complete information on this new machine.

C. G. SARGENT'S SONS CORPORATION • GRANITEVILLE, MASSACHUSETTS

vacuum liquid fillers. These are all described in their loose leaf catalog. Smaller sized manufacturers will find their portable vacuum bottle filler an inexpensive, handy piece of machinery to fill liquid into bottles or cans. It fills free flowing liquids in capacities from a fraction of an ounce up to gallons. The Model J is suitable for filling light liquids like fly sprays. For viscous liquids Model P is more adaptable. The vacuum is pulled by a rotary pump of one-quarter H.P. that operates from any A.C. electric light socket. As no liquid passes through the pump, the filler may be used for a large variety of liquids by merely cleaning the filling handle. This handle is fitted with three filling spouts that may be adapted to fill small neck or large neck openings to the containers. From 600 to 2500 bottles per hour may be filled to the desired height depending upon the nature of the liquid being filled and size of container. Defective bottles are not filled because the vacuum is broken, and are thus readily discernible. For easier portability these fillers may be mounted on iron stands with rubber tired wheels.

Dial Thermometer

A new bimetallic dial thermometer with a permanently calibrated highly responsive coil has recently been announced by Equipose Controls, New York. The dial is available with an unbreakable glass crystal through which easy reading numerals and temperature gradations are quickly seen. The expansion of the bimetallic coil rotates an attached shaft and indicating pointer as one unit over the entire temperature range. The thermometer is protected against corrosion, shock and rough treatment so as to give long service. Dial sizes of 2 in., 3 in., and 6 in. are obtainable and they are easily installed. Over-range temperature protection up to 50 per cent is provided on thermometers up to 500° F. Anyone using dial thermometers will do well to investigate this improved instrument.

Catalog on Surface Active Materials

A very comprehensive catalog has just been issued by The Emulsol

Corporation, Chicago. This company has been developing surface active materials for 25 years and has produced many valuable chemicals in this field. They present a digest of these in this 60-page work in such a manner that it takes but a few moments to look up their properties. They tabulate the 70 odd products they feature in a ready reference chart that gives their physical properties and principal uses. Each product is keyed to a page number following, on which the product is more fully described and its chemical properties are given. Among their products are included emulsifiers, wetting agents, cationic germicides, preservatives plasticizers and emulsification assistants.

Liquid Mixers

The Mixing Equipment Co., Rochester, N. Y., is among the best known concerns making liquid mixers and agitators. Their "Lightnin" line is used by many plants in our industries. These consist of electric and air driven portable units, of top entering units and side entering units. Numerous plant operations like mixing, dissolving, emulsifying, circulating heat exchange improvement, reacting, extracting and similar procedures require mixers of this type. To follow through on the specifications of this company's line would require consid-

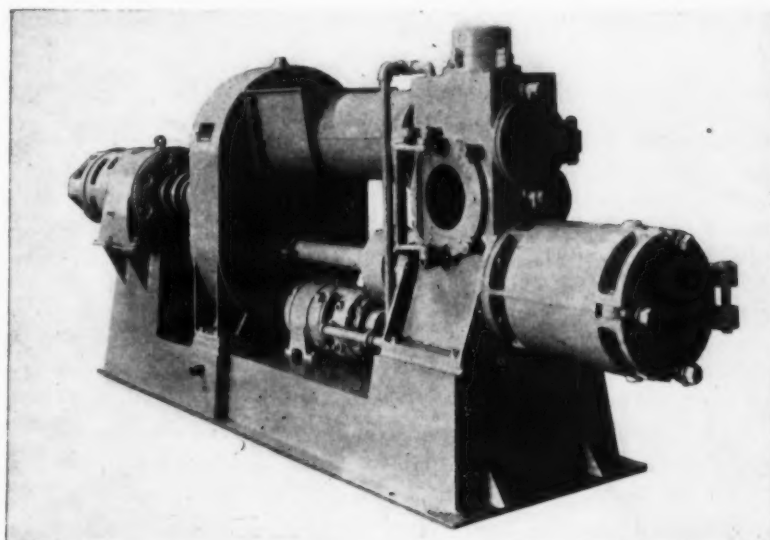
erable space. Since they specialize in this one field they have incorporated unusual construction features for their large variety of mixers in each class.

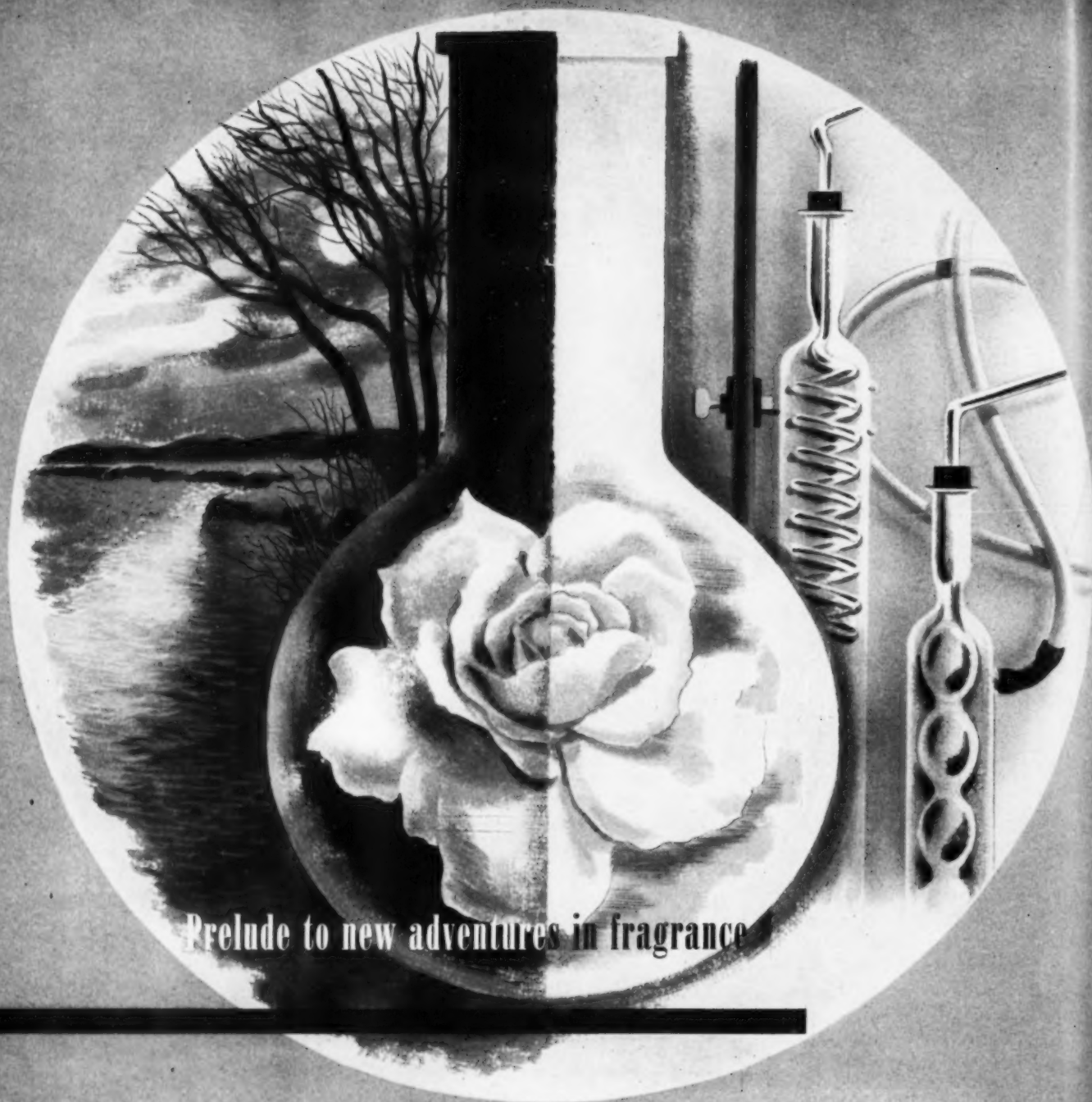
Offer New Vacuum Plodder

Bonnot Co., Canton, Ohio, is currently introducing a new development in soap making machinery, a vacuum plodder which the manufacturer believes will make possible improvements in the production of high quality milled toilet soaps. The "Bonnot Duplex Vacuum Plodder" was developed and being tested by the Bonnot Company prior to the war, but commercial production was held up pending the end of the war and the removal of restrictions on manufacture of machinery.

The Bonnot Company has been manufacturing processing equipment for over fifty years and has pioneered in the development of vacuum machinery for various manufacturing applications. Its soap plodder has been under test for five years and the vacuum principle is said to eliminate many problems resulting from compressing, extruding or packing in open atmosphere. Use of the vacuum plodder is said to result in soap of increased density, better uniformity and higher quality. A superiority of texture and hardness of surface is said to be obtainable.

New Vacuum Plodder recently introduced by the Bonnot Company of Canton, Ohio.





Prelude to new adventures in fragrance

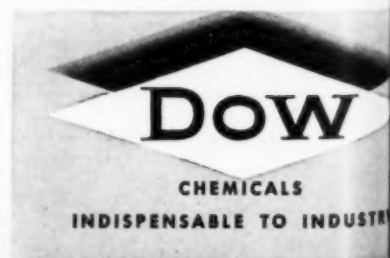
Preparing for the adventure of creating a new scent or a new flavor, the blender looks first to his basic materials. They must be varied enough to give free rein to his imagination . . . they must be uniform and of high quality to assure the excellence of his finished product.

Dow's Synthetic Aromatic program is organized with both these essentials in mind. Carefully controlled manufacturing techniques assure dependable, uniform quality. And a background of intensive research provides a steady flow of new Dow Aromatics . . . a never-ending invitation to new ideas.

DOW AROMATIC PRODUCTS: Coumarin, Cyclotene, Diphenyl Oxide, Diphenyl Methane, Gardanthrol, Indol, Methyl Anthranilate, Methyl Phenyl Carbinyl Acetate, Methyl Salicylate, Palatone, Phenyl Ethyl Acetate, Phenyl Ethyl Alcohol, Styrene P-100, Sylvenol, and others—

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN
 New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago • St. Louis
 Houston • San Francisco • Los Angeles • Seattle

Synthetic
Aromatic
Chemicals



PRODUCTS AND PROCESSES

Sulfonic Acid Detergents

Sulfonic acids suitable for use as detergents and wetting agents are prepared by heating together equal parts of concentrated sulfuric acid and an alkyl ether of cardanol or of cashew nut shell liquid at 110°C. for 20-60 minutes. The reaction mass is cooled, the water and surplus acid poured off, and the product nearly neutralized and filtered. The filtrate is evaporated to dryness. M. T. Harvey, to The Harvel Corp. U. S. Patent No. 2,377,552.

Detergents from Dibasic Acid

Compounds valuable for the preparation of detergents are made by condensing primary alcohols with unsaturated dibasic acids or their esters, the alcohol adding across the olefinic bond. An example is the use of diethyl maleate and lauryl alcohol. L. P. Kyrides, to Monsanto Chem. Co. U. S. Patent No. 2,377,246.

Laundry Soap Mixer

Soap savings of approximately 25 per cent at Camp McCoy, Wisconsin, are said to have resulted from the installation of a locally made mixer for liquid soap to be used in the laundry. The mixer was made out of four salvage metal boxes. Internal pumps were made of perforated pipes, through which steam spurted, circulating the soap. *The Laundryman*, July 1945.

Rinsing with Magnesium

Mixtures of boric acid with magnesium sulfate or magnesium chloride are desirable for use in rinse baths in the laundry to reduce washing time by neutralizing residual soap and alkali. The disadvantage is that magnesium hydroxide, a sufficiently strong alkali to be objectionable, forms in the bath and deposits on the fibers. When boric acid is added to reduce the pH of the rinse solution below 8.2, this disadvantage is overcome. Fabrics laundered by this method have no ash deposits on the fibers, only a

normal loss of tensile strength, and excellent retention of whiteness. E. A. Robinson, to Diamond Alkali Co. U. S. Patent No. 2,379,458.

Spot Cleaner

For removing grease, grime, i.d.ne, and even blood stains, from clothes, rugs and walls, a new liquid cleaner called "Brico" is offered by the Brico Corporation of New York City. The compound is mild in its effect on hands, fabric and paint, and is said to remove rubber-heel marks from linoleum, as well as numerous other forms of dirt.

Sulfonates from Hydrocarbons

Organic sulfonates useful as detergents are prepared from refined mineral oils by reaction with sulfur dioxide and chlorine or with sulfonyl chloride in the absence of light and in the presence of an organic nitrogen catalyst and an organic peroxide. The sulfonyl chloride formed is hydrolyzed to the sodium sulfonate. H. M. Grubb and E. B. Tucker, to Standard Oil Co. of Indiana. U. S. Patent No. 2,374,193.

Metal Cleaning with Alkali

Metal articles which are non-reactive with molten caustic alkali are immersed in the molten alkali containing 1-25 per cent of dissolved sodium amide. The articles are then quenched with water. H. N. Gilbert, to Canadian Industries Ltd. Canadian Patent No. 427,814.

Patented Soap Dish

A small rectangular soap dish contains a removable part consisting of recessed parallel sections across the dish to support the cake of soap. M. Schnider. Canadian Patent No. 428,215.

Ketones in Surface Activity

Valuable dispersing and emulsifying agents are prepared by treating naphthenyl ketones with hypophos-

phorous acid. J. B. Dickey, to Eastman Kodak Co. U. S. Patent No. 2,364,348.

Skin Protective Lotion

A patented skin-protective lotion contains the following:

Gelatin	1.2%
Glycerine	1.8
Ammonium alum	0.5
Potash alum	0.5
Citric acid	0.4
Water	95.6

W. A. Inman. U. S. Patent No. 2,354,319.

Sulfonated Oil Treatment

Soluble sulfonated oils are decolorized by treatment with a peroxide in the presence of a soluble phosphate. H. O. Kauffmann and R. L. McEwen, to Buffalo Electro-Chem. Co. Canadian Patent No. 428,953.

New Naphthenates

A number of new metallic naphthenates have been announced as available in experimental quantities from the Oronite Chemical Company of San Francisco. Those of special interest have the following properties:

Naphthenate of	Metal Content %	Suggested Uses
Mercury ..	29	Fungicide
Nickel	11	Hydrogenation catalyst
Potassium ..	7.5	Soaps containing hydrocarbons
Sodium ...	4.5	Soaps and disinfectants

Alkaline Treatment of Wool

A new process for treating wool with alkali greatly reduces shrinkage. Air-dry wool is treated with a dilute solution of caustic soda in a mixture of butyl alcohol and white spirit at room temperature for 1 hour, followed by removal of the processing liquor, acidification and final scouring. The used liquor is collected, distilled and reused. It is claimed that caustic soda dissolved in organic solvents is not as damaging to wool as it would be in aqueous solution, since the solution in organic solvents has different properties. Also the organic solvents confine the action of the caustic to the surface of the wool fibers. *Textile World* 95, No. 8, 138 (1945).



Synthetic floral oils . . .

PRESENT reduced supplies of natural floral essences emphasize the value of high quality substitutes. Synthetic floral essences can be used to replace the natural oils with full satisfaction and marked success in numerous products,—toilet soaps, shampoos, shaving creams, powders, creams, and many others.

In fact, in many products the newer synthetic floral essences are to be *preferred* for the manner in which they reproduce the true fragrance of the living flowers in the finished product,—not to mention uniformity of quality and odor fidelity, and their economy under present conditions.

Let us tell you more about these Norda substitutes as an answer to the scarcity of natural floral oils.

NORDA Essential Oil and Chemical Co., Inc.

Chicago Office
325 W. Huron St.

Los Angeles Office
2800 E. 11th Street

St. Paul Office
253 E. 4th St.

Toronto Office
119 Adelaide St., W.

New York Office
601 West 26th St.

Montreal Office
135 Commissioners St., W.

Conducted by

Lancaster, Allwine &
RommelRegistered Attorneys
PATENT AND TRADE MARK CAUSES402 Bowen Building,
Washington, D. C.

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine & Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

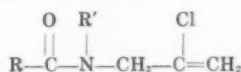
No. 2,383,610, Hand Cleaning Composition, patented August 28, 1945, by John D. Morgan, South Orange, and Russell E. Lowe, East Orange, N. J., assignors to Cities Service Oil Co., New York. A hand-cleaning solution comprising the following ingredients proportioned by weight: polyvinyl alcohol 4.2 per cent, mannitol glycerol monooleate 3.1 per cent, tetrasodium pyrophosphate 0.01 per cent; trisodium phosphate 0.05 per cent, a mono alkyl derivative of a phenol mono sulfonate 0.12 per cent, cresylic acid potassium coconut oil soap mixture, 0.91 per cent; and water 91.6 per cent.

No. 2,384,006, Scouring and Polishing Powder, patented September 4, 1945, by Joseph M. Bleakney, Manhasset, N. Y. A scouring and polishing powder comprising sawdust, the particles of which are coated with a dried binder, finally ground diatomaceous earth securely imbedded in said binder and a dry soap powder.

No. 2,384,629, Process of Making a Bleaching Agent, patented September 11, 1945, by Karl E. E. Laue, Syracuse, N. Y., assignor to The Solvay Process Co., New York. The process for the production of a soluble, stable, solid chlorine bleach which comprises reacting chlorine and lithium hydroxide in the presence of sufficient water to dissolve the lithium chloride and substantially chemically equivalent amount of lithium hypochlorite formed by the reaction of said chlorine and lithium hydroxide, crystallizing at a temperature below 55° C. said lithium hypochlorite as solid from solu-

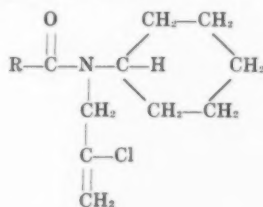
tion in said water of a concentration of at least 20 per cent lithium hypochlorite while maintaining in the solution sufficient water to retain lithium chloride in solution and separating from the crystallized lithium hypochlorite mother liquor containing dissolved lithium chloride in amount such that the mixture of solid crystals and residual mother liquor left therewith contains a substantially higher ratio of lithium hypochlorite to lithium chloride than the 1 to 1 mol. ratio of these salts which is formed by the reaction of said chlorine and lithium hydroxide.

No. 2,384,811, Insecticidal Amides, patented September 18, 1945, by Gerald H. Coleman, Wesley D. Schroeder, and Gerald A. Griess, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Michigan. An amide having the formula



wherein R and R' each represent a hydrocarbon radical selected from the group consisting of alkyl, cycloalkyl, aryl, aralkyl, and alkenyl.

No. 2,384,812, Insecticidal Toxicants, patented September 18, 1945, by Gerald H. Coleman, Wesley D. Schroeder, and Gerald A. Griess, Midland, Mich., assignors to The Dow Chemical Co., Midland. An insecticidal spray comprising a petroleum distillate having the dissolved therein pyrethrin and an N-cyclohexyl-N-2-chloroalkyl amide having the formula



wherein R represents a hydrocarbon radical selected from the group consisting of alkyl, cycloalkyl, aryl, aralkyl, and alkenyl.

No. 2,385,075, Detergent Composition, patented September 18, 1945, by James Kenneth Gunther, Chicago, assignor to Industrial Patents Corp., Chicago. A substantially non-caking cleanser composition which comprises a mixture of a predominant amount of finely divided silica and a substantial

amount but not in excess of about 30 per cent by weight of a finely divided water-soluble alkaline alkali metal phosphate, said mixture normally tending to cake when stored in a humid atmosphere, and sufficient finely divided calcium silicate to substantially prevent said caking.

No. 2,385,134, Apparatus for Cooling Soap and Similar Solidifiable Materials, patented September 18, 1945, by Daniel Alphonsus Hackett, Wanstead, England, assignor to Lever Brothers & Unilever, Limited, Port Sunlight, England. A cooling cell comprising two side frame members connected by a bottom frame member, and two substantially rectangular side plates secured to said frame members to form a narrow rectangular chamber open at the top, in combination with a removable stiffening grid insert for said chamber comprising a top frame member having a plurality of substantially vertical bars depending therefrom and a transverse bar near the lower portion of said vertical bars for holding said vertical bars in position, the edges of said bars vertically slidably engaging the inner surfaces of said side plates when said stiffening grid is inserted into said chamber, and the ends of said top frame member being securable to the tops of said side frame members and the upper margins of said side plates being securable to the sides of said top frame member after said grid is inserted to close the top of said chamber and complete the cooling cell.

No. 2,385,284, Insecticides and Methods of Using, patented September 18, 1945, by William A. Knapp, New York, assignor to General Chemical Co., New York. The method of combatting chewing insects which comprises applying to the food of the insect a phenoxazine.

No. 2,385,322, Soap Molding Machine, patented September 18, 1945, by Charles T. Walter, Chicago, assignor to Industrial Patents Corp., Chicago. A machine for solidifying and stacking a material that may be extruded and solidified comprising means to extrude said material, and means to receive and support the extruded material while it is solidifying, means for feeding a rack into position to receive the solidified material, means to automatically feed a second rack into said position as the preceding rack is filled, means to sever the extruded stick, and means to feed a rack past the severing means whereby the severed product may be placed on the rack.

No. 2,385,614, Detergent Bars or Cakes, patented September 25, 1945, by Emil Edward Dreger, Summit, N. J.,

and Adam Carr Bell, Jackson Heights, N. Y., assignors to Colgate-Palmolive-Peet Co., Jersey City. Detergent bars or cakes containing as a major ingredient solid salts of the sulphuric acid ester of diglycerides of long-chain fatty acids.

No. 2,385,636, Process of Distributing Insecticides, patented September 25, 1945, by William R. McLain, Frank V. Miller and Edwin H. Green, Huntsville, Ala. A process of producing and vaporizing or subliming arsenous oxide by igniting a mixture of fast-burning chemicals, which in turn initiates a reaction between arsenous oxide and powdered aluminum which comprise the main chemical charge and thus producing arsenic which is sublimed or vaporized by heat of the same reaction, and is oxidized to arsenous oxide upon contact with the air and thus acts as an insecticide.

The Washing of Staple Rayon

Large-scale washing tests in ordinary washing machines show that staple rayon is sensitive to strong alkaline washing liquors. Natural washing agents employed alone are not effective. A mixture of soap with a fatty alkyl sulfate or fatty-acid condensation product should be used. Bleaching agents at a temperature of 80-5°C. cause swelling of the fibers. As a cellulose product, staple rayon resembles cotton and linen; as a structureless fiber which is not protected against wet mechanical stresses it resembles physically animal textile fibers. It should therefore be washed chemically like cotton and mechanically like wool. K. Pfeleiderer and W. Wertel. *Mellian Textilber.* 25, 90-2.

Interfacial Tension and Time

The time required for equilibrium at an oil-water interface was determined for palmitic acid and the oil-soluble detergent, "Aerosol OT." Changing the oil phase decreased the time from several days for "Nujol" to a few hours or minutes for nitrobenzene. It is suggested that the lower the concentration of monomer, the longer the time required for attaining interfacial equilibrium. No equilibrium constants appear to be available for monomer-dimer association of fatty acids, but it is certain that the extent of dissociation into monomer

would increase in the above order. If this relation is substantiated, another means of estimating the degree of association of polar compounds will be provided. A. E. Alexander and E. K. Rideal. *Nature* 155, 18 (1945).

Evaluating Antioxidants

Little is known of the mechanism by which antioxidants inhibit oxidation. It is possible that some antioxidants cause formation of products different from those normally formed during oxidative rancidification. In this case, use of a pre-established peroxide value or quantity of oxygen absorbed as an end point of the induction period, as commonly employed in rapid tests, might be invalid.

A comparison of stability values and protection factors as determined by three widely used rapid methods—the active-oxygen, oxygen-absorption, and oven-test—in most instances showed fair agreement between the result by the active-oxygen and oxygen-absorption methods, as indicated by protection factors. In experiments in which an oven test was also used, the protection factors in most cases were in general agreement with those obtained by the other two methods.

The results indicate that comparison of antioxidants by means of protection factors is valid only when the same substrate or fat is used. Protection factors so obtained help to evaluate the order of effectiveness of various antioxidants but do not yield a strict quantitative comparison of the protective power of the antioxidants when applied to other substrates. R. W. Riemenschneider, E. E. Luddy, S. F. Herb, and J. Turer. *Oil & Soap* 22, 174-7 (1945).

Sulfonated Fatty Esters

Fatty acids are sulfonated in two steps by (1) esterifying with an aliphatic alcohol of low molecular weight, and (2) sulfonating the fatty ester in a medium containing a complex alcohol or ester containing ether, ketone, or amino groups. Step 1 is carried out by heating the fatty acid or mixture of fatty acids with the alcohol at 90-95°C. for 4-6 hours with an alkylated naphthalene sul-

famate catalyst. In step 2, one molecule of the ester is treated at 20-25°C. with 1 molecule of a derivative of ethylene or diethylene glycol, diacetone alcohol, or an amino alcohol, and 100-300 per cent of the total weight of 66° Be. sulfuric acid, for 1-3 hours. Partial ester interchange occurs, together with sulfonation. The products are washed with 10-20 per cent sodium chloride solution and neutralized to pH 5-7, and are suitable for use as surface-active agents. A. A. Cook, C. Tjorn, and J. Zaparanick, to Arkansas Co., Inc. U. S. Patent No. 2,371,284.

Method for Hardness of Water

A colorimetric method for the determination of the hardness of water is based on the ability of tropeolin 00 to form compounds with alkaline earth metals. Prepare tropeolin 00 by dissolving 0.4 gram of tropeolin in 50 ml. of alcohol and adding distilled water to 100 ml, disregarding the somewhat incomplete solution of tropeolin in water. As an indicator for the pH interval of 1.3-3.2, it changes from red to yellow.

Prepare the scale for the determination of hardness by diluting natural water with various quantities of distilled water, and determining the magnesium and calcium salts gravimetrically. Place 1 ml. of water sample in a clean dry test tube of the same diameter as that used for the scale, add exactly 0.5 ml. of the tropeolin solution, mix and match the color with the scale up to 10° after 1-2 minutes. Add 0.5 ml. more of tropeolin if the hardness of the water is higher than 10° and match the color with a scale of from 10 to 20°. At higher degrees of hardness the water must be diluted before the determination. Hardness up to 44° can be determined to within 2-3°. The relative contents of calcium and magnesium have no effect on the determination. Natural waters with comparatively low hardness can be determined to within 1.0-1.5°. The sensitivity of the method is 0.5°. S. M. Drachev. *Zavodskaya Lab.* 11, No. 1, 46-8 (1945).

U.S.I. CHEMICAL NEWS

November ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries

★ 1945

Synthetic Short Cuts Via New Chemicals Predicted by U.S.I.

Possibilities Barely Tapped for Five New Organic Intermediates

New products, and economical synthetic short cuts to old ones are promised by five new chemicals which U.S.I. has produced by claisen-type condensations. Although exploration of their full possibilities has been delayed as a result of concentration on specific war problems, these five organic intermediates are on their way toward playing an important part in the synthesis of drugs, medicinals, dyes and specialties.

One substantial use of alpha acetyl butyrolactone is in the synthesis of vitamin B₁. 5-diethylamino pentanone-2 is an important intermediate in the manufacture of atabrin.

A third new organic chemical, ethyl alpha-

(Continued on next page)

X-Rays Give Chemists New Tool for Analysis

Closely following the discovery that atoms identify themselves by the amount of X-radiation they absorb, comes the development of special sensitive apparatus to measure this absorption, and give chemistry a new tool for rapid identification of the elements of which a substance is made.

The absorption of X-rays is approximately the same for each element, whether it is gaseous, liquid or solid. For instance, an atom of oxygen will have the same absorption whether it is in air, water or in sand.

To measure these differences in absorption with sufficient accuracy, an ultra-sensitive photo-electric cell of the multiplier type is used in connection with amplifiers in which weak signals are built up until it is possible to measure amounts of radiation with as little energy as one ten-billionth of a watt.

Enough work has already been done with the new method of analysis to show that for certain types of problems it offers clear advantages over older methods.

Atomic Chain Reaction Hinges on Ether-Purified Uranium Ore

With the publication of the official Smyth report on "Atomic Energy for Military Purposes," the news was out that one of the vital keys to the success of the entire atom-bomb project was ether extraction of uranium ore.

Uranium oxide of unprecedented purity was required to produce metal which would undergo a sustained chain reaction—the type of reaction necessary for either the explosion of U-235 or the production of plutonium. Experiments at the National Bureau of Standards showed that, by an ether extraction, all the impurities could be removed from uranyl nitrate in a single extraction. The report

High Color and Gloss Retention Afforded by New Alkyd Resin

S&W Aroplaz 1241 Now Available Without Restrictions for Architectural Enamels, Marine Finishes, Mill-Gloss Whites

Foreshadowing a whole range of interesting new alkyd resins which will be available to protective-coatings manufacturers as reconversion gets into full swing is S&W Aroplaz 1241, just announced by U.S.I. "1241" is a long-oil,



Architectural enamels formulated with "1241" will feature pureness of color and color and gloss retention not approached by prewar products.

pure, oxidizing alkyd with properties which make it particularly well suited to a wide range of paints and enamels.

Important among its characteristics are the pureness of color and high gloss and color retention which "1241" imparts to white enamels. In this respect, as well as in brushing qualities, exposure resistance and durability, it is superior to comparable finishes made with conventional alkyls of similar oil length. Films made with Aroplaz 1241 are found to be harder and to show greater resistance to abrasion, water, alkali, solvents and oils.

Relatively Non-Reactive

The new resin is a relatively non-reactive vehicle, which may be used with normal percentages of the usual basic pigments. It blends well with a wide variety of drying oils, varnishes and other alkyls. Blended with oil paints, it increases their hardness, speeds up drying and improves gloss retention and durability.

Exterior Applications

Alone or extended slightly with oils, "1241" makes excellent trim and trellis paints, as its durability is better than conventional long-oil alkyd resins. While it may be formulated with zinc oxide, it should be noted that inclusion of zinc oxide results in a slight loss of initial gloss and that gloss retention is also affected by the formation of the characteristic haze. However, gloss and gloss retention remain noticeably superior to that of coatings formulated with regular alkyls.

Supplies of S&W Aroplaz 1241 are not subject to allocation and are fully available for any application. Samples and additional data may be had on request.

SPECIFICATIONS

Solution in Mineral Spirits 69-71% N.V.
Viscosity (G.H.) Y-Z,
Acid Number 6-10
Color (G.H. 1933) 7-9
Wt./gallon at 25° C 8.05-8.15 lbs.

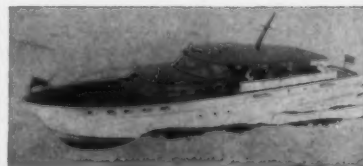
Solubility: Complete in petroleum and coal-tar hydrocarbons. Insoluble in ethanol. Compatible with wide range of vegetable drying oils, varnishes and other alkyls.

Better Marbleized Finishes

Layers of paint or enamel in several colors are floated on the surface of a tank filled with an aqueous solution. Articles are dipped into the tank through the layers of paint and pick up a coating of streaks of different colors in a marble-like effect, which wrinkles on drying, according to the patent.

Detects Toxic Gases

Toxic gases can be detected by bubbling air suspected of containing them through an ionizable solution such as ethanol and water, according to a recent patent. After the toxic gases have been absorbed, changes in the electrical resistance of the liquid indicate the presence of a soluble ionizable gas.



This smart Higgins "PT Junior" and many other craft will be a large market for durable marine enamels formulated with such S&W resins as "1241".

Synthetic Short Cuts

(Continued from preceding page)

oxalpropionate, has six thought-provoking characteristics: 1. It loses carbon monoxide and yields diethyl methylmalonate on distillation; 2. Heated with ammonia, it forms alpha-methyl-beta-imino succinimide; 3. Boiled with alcoholic potassium hydroxide, it breaks down into propionic and oxalic acids, and alcohol; 4. Heated with ethyl iodide and sodium ethoxide, it yields alpha-methyl-alpha-ethyl-oxalpropionic ester; 5. Heating with dilute sulfuric acid produces propionylformic acid, alcohol, and carbon dioxide; 6. Hydrogenation gives diethyl alpha-hydroxy-beta-methyl-succinate, which yields 3-methyl 1, 2-butanediol, 2-methyl 1, 4-butanediol, alcohols and water.

The following physical constants of these new chemicals may suggest further uses and applications. Samples are available on request.

***n*-ACETYL BUTYRO LACTONE**

Mol. Wt., 128. Sp. Gr., 1.185-1.189 @ 20/20° C. Refractive Index, 1.460 @ 20° C. Boiling Pt., 121-122° C. @ 10 mm. Hg. abs. Colorless liquid. Suggested Uses: Organic synthesis.

**5-DIETHYLAMINO PENTANONE-2
(Noval Ketone)**

Mol. Wt., 157. Sp. Gr., 0.865 @ 20/20° C. Refractive Index 1.435 @ 20° C. Boiling Pt., 90-92° C. @ 20 mm. Hg. abs. Colorless liquid. Turns dark on storage in contact with air. Suggested Uses: Organic chemical synthesis.

ETHYL ALPHA-OXALPROPIONATE

Mol. Wt., 202. Sp. Gr., 1.0977 @ 20/20° C., Refractive Index, 1.433 @ 20° C., Boiling Pt., 108-109 @ 5.5 mm. Hg. abs. Color light yellow to colorless.

**ACETYL PROPYL CHLORIDE
(5-Chloro Pentanone-2)**

Mol. Wt., 120.5. Sp. Gr., 1.054 @ 20/20° C. Refractive Index, 1.440 @ 20° C. Boiling Pt., 71-72° C. @ 20 mm. Hg. abs. Colorless liquid. Turns dark on storage in presence of air. Suggested Uses: Organic synthesis.

METHYL CYCLOPROPYL KETONE

Mol. Wt., 84. Sp. Gr., 0.903 @ 20/20° C. Refractive Index, 1.426 @ 20° C. Boiling Pt., 111-113° C. @ 760 mm. Hg. Colorless liquid. Suggested Uses: Organic synthesis.

**Acetone Process Cuts Costs
of Mercuric Nitrates**

Costs of mercuric nitrates, used as disinfectants and bactericides, can be materially lowered, according to claims made in a new patent.

Mercury diphenyl, dissolved in acetone, is mixed with a concentrated solution of mercuric nitrate in dilute nitric acid and acetone. Upon heating this mixture, the phenyl mercuric nitrate begins to precipitate at 45° C. After the reaction is complete, the phenyl mercuric nitrate is separated by filtration, and additional amounts are secured by evaporating the mother liquor.

**Increased Water Content
for Zein Solutions**

Zein solutions, used in textile and paper finishes, adhesives, and pigment vehicles, can be given greater dispersion in water, according to the claims made by the inventor of a new process for preparing and using zein solutions. The paste described in the patent is composed of zein, ethanol, sulphated stearyl alcohol, and water. It is described as being dilutable with volumes of water far in excess of the quantity which would cause zein precipitation with ordinary mixtures.

**Ethanol-Acetone Extract
Aids Tetanus Treatment**

Curare, a potent and deadly alkaloid used with lethal effects as an arrow-tip poison by South American Indians, and by mystery-story writers to confuse the plot, has emerged as an agent to alleviate the agonizing pain of tetanus. Action of the curare extract used is to selectively depress the receptive mechanism of the skeletal muscles.

The active alkaloid used in this treatment, a foreign paper says, is extracted from any of the three forms of gummy, black, crude curare by dissolving in ethanol, evaporating the solution, re-dissolving the residue in water and precipitating out the inert matter with acetone. In addition to potentialities of this curare extract in the treatment of tetanus, it has long been known as a powerful anaesthetic. Its use is now suggested in the treatment of hydrophobia and in lessening the after-effects of shock-therapy treatment of certain mental disorders.

TECHNICAL DEVELOPMENTS

Further information on these items
may be obtained by writing to U.S.I.

Protective finishes, produced by an oxidizing process, are said to be applicable to copper alloys, brass, zinc, iron and steel. Finishes are said to be stable, long-lived and wear resistant. Colors, in addition to black, can be applied to copper and brass. Company offers a similar treatment for aluminum products which they say produces a hard, gray corrosion-inhibiting surface. (No. 996)

USI

Acid-and-alkali-proof cement, claimed to be inert to all alkalis, fats and grease, and most acids, is available for ceramic lining constructions. It is said to be abrasion resistant, quick setting and easy to use. (No. 997)

USI

A new liquid adhesive, for joining metals, wood, plastics and glass is said to combine exceptional coverage with high strength. Curing is done under heat and pressure. (No. 998)

USI

A new silicon lubricant, for valves handling steam, hot gases, high vacuum, and most dilute mineral acids, is offered with the statement that its viscosity remains unchanged from 40 to 400 F. (No. 999)

USI

A replacement for China Wood Oil is offered in the form of a modified linseed oil claimed to body rapidly in the varnish kettle, to be compatible with resins used to produce durable, fast drying varnish films. (No. 1000)

USI

A "harnessed" formaldehyde is offered to provide better control of the reaction of formaldehyde with various chemicals, including phenols, amines and hydrocarbons. The new formaldehyde is said to increase the yield and improve the quality of end products. (No. 1001)

USI

A non-inflammable plastic is described as being thermosetting, and having high optical qualities, electrical resistance and resistance to abrasion, oils and most chemicals. Its refractive index is about 1.57. (No. 1002)

USI

To dustproof concrete floors, a liquid is available which is designed to fill the pores, and react with the cement to form a tough non-dusting surface that resists the action of moisture and chemicals. It is applied by brush or sprinkler. (No. 1003)

USI

An anti-fog film, claimed to penetrate the submicroscopic pores of glass and thus prevent fog, frost, and steam accumulation, is now on the market. It is applied by spreading on both sides of the surface, then polishing. (No. 1004)

USI

Improved plastic production is claimed for a new organic peroxide, announced as having a higher oxygen content, being purer, and having great utility as a polymerization catalyst for production of plastics where no catalyst diluent can be tolerated. (No. 1005)

USI

Bleaching wool, rayon and cotton, without weakening the fabric, is a new application announced for an organic chlorine compound. (No. 1006)

USI

U.S.I. INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND ST., NEW YORK 17, N. Y.



BRANCHES IN ALL PRINCIPAL CITIES

ALCOHOLS

Amyl Alcohol
Butanol (Normal Butyl Alcohol)
Fusel Oil—Refined

Ethanol (Ethyl Alcohol)

Specialty Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—170 proof, C.P. 96% Absolute

*Super Ryle Anti-Freeze
*Solus Respiratory Solvent

***ANSOLS**

Ansol M
Ansol PR

ACETIC ESTERS

Amyl Acetate
Butyl Acetate
Ethyl Acetate

OXALIC ESTERS

Diethyl Oxalate
Diethyl Oxalate

PHTHALIC ESTERS

Diethyl Pthalate
Diethyl Pthalate
Diethyl Pthalate

OTHER ESTERS

*Diethyl Carbonate
*Ethyl Chloroacetate
*Ethyl Formate

INTERMEDIATES

Acetoacetaldehyde
Acetoacetaldehyde anhydride
Acetoacetaldehyde oxime
Acetoacetaldehyde oxime anhydride
Acetoacetaldehyde oxime anhydride
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

ETHERS

Ethyl Ether
Ethyl Ether Absolute—A.C.S.

FEED CONCENTRATES

*C-100 S.E.
*C-100 Special Liquid
*Valarone 40

ACETONE

Chemically Pure

RESINS

S&W Seleno-Cumyl all types
S&W Congo Gum—new, fused & esterified
S&W *Anipal—alloys and allied materials
S&W *Acetone—pure phenolics
S&W *Acetone—modified types
S&W Natural Resins—all standard grades

***OTHER PRODUCTS**

Cellulose
Ethylene Glycol
Nitrocellulose Solutions
Urethane

*Registered Trade Mark

ROSIN SUPPLY OUTLOOK

(From Page 39)

American users (still greatly restricted in use) and to ship our American rosin to foreign countries. The Foreign Economic Administration served us notice recently that it had orders for an additional 273,000 drums, and that it proposed to license these orders for export. F.E.A. told us also that there is a pent-up demand from liberated and war-free countries for still another half million drums. If we start to fill these orders for export it is hard to say where or when we can stop. Who is going to decide, for instance, that Holland and China should be given rosin and that Sweden and the Dutch East Indies or Cuba should not be given it? We must bear in mind that any rosin exported must be taken from our own American industries. To be forced to reduce present quotas for the various American industries, would be a catastrophe which we are trying hard to prevent.

"The naval stores industries and their senators and representatives have started the pressure to open up the export of rosin. Incidentally, the American producers will net somewhat more in actual returns if rosin is exported than if it is kept here. These people do not like Order M-387 administered by War Production Board, which is absolutely opposed to further opening up of rosin for export at this time. The one way to take off the export lid is to revoke Order M-387. And so the pressure is on us every day to revoke the order. Based on my experience of what goes on in Washington, I can assure you that unless the industries whose rosin needs we are striving to protect back us to the limit, Order M-387 will be revoked and the export lid will be off. There may be some governmental means by which export can be held down. We are studying this and will know more about it later.

"However, the plain facts are that if War Production Board faithfully follows the President's directive, we have in rosin a commodity which is in such short supply that it requires some control by Government and un-

der the directive it seems that we are elected to act.

"We are not worried so much about the largest buyers. In the scramble they will get some rosin. But for the small industries and the many thousands of small buyers, there will be no rosin within 60 days or less after the order is revoked! And so, in an effort to carry out the directive of the President, and to prevent a chaotic condition from developing in American industries having 300 uses for rosin, we are trying to hold the line. I recommend that this matter have the serious and prompt attention of rosin users in every field."

New Sherolite Products

Sherolite Products, New York, recently announced two new metal cleaning products: "Sheroseal" and "Sherobrite." The latter is a metal cleaner and conditioner in powder form that is recommended for general household use on automobiles, glass, porcelain, furniture, marble, silverware, tools, etc. "Sheroseal," a quick-drying, colorless, transparent coating which is claimed to protect the luster of polished metal surfaces is recommended for use in conjunction with the company's "Sherobrite" cleaner. "Sherobrite" retails for \$2.00 in a one quart, two pound can, while "Sheroseal" is packaged in a 4 ounce glass jar that retails for \$1.50.

Industrial Oil and Fat Products, by Alton E. Bailey. 735 pages. \$10.00. This new text on oil and fat technology discusses the commercially important oil and fat products and the processes used in their manufacture. The nature of fats and oils is reviewed at considerable length, as well as the sources of the principal products of commercial importance. Composition and characteristics of the common fats and oils are reviewed. Such processes as extraction, refining and bleaching, deodorization, hydrogenation, fat splitting, fractionation, polymerization, etc. are given treatment in separate chapters. Industrial uses for fats and oils in soaps, paints, the edible field, etc. are also covered individually. The chapters on soap run approximate-

ly 70 pages. While Mr. Bailey's text is necessarily based to a considerable extent upon the previous literature, he also includes a considerable volume of original material, published here for the first time. His book will be a valuable addition to the library of anyone concerned with commercial fats and oils, their production and use.

SOAP PLANT LAYOUT

(From Page 31)

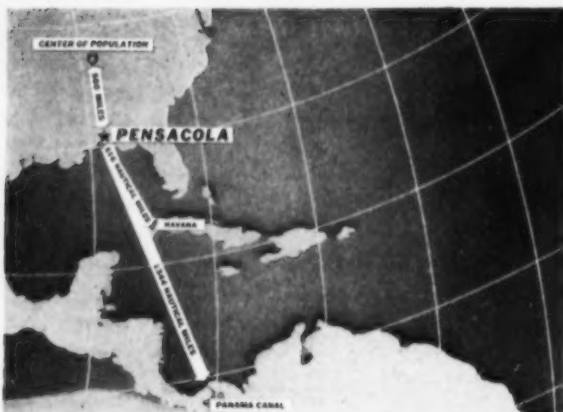
it was obligatory to remove glycerine but in normal times its is often standard practice to leave as much as possible in the soap as it is cheaper to do this than to remove it. Glycerine recovery is again a technical operation and the uninitiated should consult experts before making any decisions regarding this phase of soap making.

The storage of the finished soap often receives but shallow consideration. It is frequently set down in some vacant spot around a plant. Since moisture, odor and other conditions may seriously affect the appearance or quality of finished products, these should be stored in airy, dry places. It may cost something to elevate it, but since the third story of a plant is often the most suitable area, a storage room should be installed in this location. The same is true of packaging materials. Once the stock has been elevated, chutes or conveyors are a convenience to bring the stock to the shipping and forward stock rooms. By proper arrangements of this kind the oldest stock may be shipped out first as should be the custom.

These hints to the small soap maker are but casual ones. Even smaller soapers with experience, know more about their peculiar problems than an outsider. It is wise, therefore, in fitting any small soap plant to do so upon a co-ordinated plan rather than using any one person's ideas.

Rotenone as Larvaecide

Rotenone in a concentration of 1:400,000 kills *Culex pipiens* larvae in sewage in a few hours. The same is true of a 1:3300 dispersio of pyrethrins. E. Roman. *Compt. rend. soc. biol.* 137, 499.



PROGRESSIVE PENSACOLA

Offers low plant construction costs . . . low maintenance . . . nearness to raw materials and markets.

Soap manufacturers will find that Pensacola's climate, ideal for living and working, permits large savings in plant construction and maintenance.

Ample supplies of raw materials for soap manufacture are available from already established naval stores and chemical industries in local or neighboring areas.

Labor is plentiful and cooperative. The ample soft water supply is 99.98% pure. Taxes are low. The U. S. Center of population and the rich markets of the south, midwest and Latin-America are nearby. Cheap power, natural gas, oil and coal are available. Rail, steamship, air and barge service assure adequate transportation.

Write for specific information today

INDUSTRIAL DEVELOPMENT DIVISION . . .
MUNICIPAL ADVERTISING BOARD **PENSACOLA** Florida

SCHUNDLER BENTONITE



SCHUNDLER STANDARD BENTONITE, Schundler Detergent, Fesco-Jel and other Bentonite products are available for immediate shipment from conveniently located warehouses. Priority rating is not necessary. Carload shipments are promptly made from a modern mill at Belle Fourche, South Dakota.

Bentonite is widely used as a detergent in soaps and soap powders, as a base for hand soaps, in polishes as a suspending medium for abrasives, as modifying agent in alkali cleaners and direct in laundering operations.

"THE COLLOIDAL CLAY OF INNUMERABLE USES"

Innumerable users in many industries employ Bentonite for a variety of purposes, either in dry form, as an aqueous dispersion in the colloidal phase (gel form) or with other constituents for the obtainment of one or more of the general objectives here partially listed: Effective detergency; emulsification; suspension; absorption or adsorption medium; non-oily lubrication; uniformity of dispersion; mineral adhesive; filling or coating of paper, rubber, etc.; thickening agent; sedimentation clarification; water impedance; catalyst or catalyst carrier; plasticizing; zeolitic water softening; building of soaps or alkalies; carrier or adhesive for insecticides, fungicides or antiseptics.

TECHNICAL SERVICE

Schundler Technical Service is available. We suggest you inform us of problems in which a Bentonite product may be the solution. We maintain a well equipped research laboratory and a complete technically trained staff.

Samples, information and quotations available upon request.

MAGNESITE
VERMICULITE

TALC
CLAYS

BARYTES
HEAT INSULATIONS

F. E. SCHUNDLER & CO., INC.
528 RAILROAD STREET JOLIET, ILLINOIS

SCHUNDLER

Wool Scouring

A high per cent of woolen goods can be successfully scoured in single or in multi-stage runs, by using a solution containing only soda ash. This saponifies some of the free fatty acids in the olein used as lubricant. Oleins ranging from 95 per cent cloth oils down to "black oils" containing 60 per cent of free fatty acids, can be completely scoured out of wool with soda ash solutions of 6°-10° Tw. The pieces are usually given three quarters to one hour in the scour, after which correct washing removes all impurities from the cloth and ensures a clean finish.

In a run of 400 pounds of cloth there may be 50 pounds of olein present. The liquor may contain 40 pounds of soda ash in solution, which is in excess of the amount required to convert all free fatty acids present to soap. At the low temperature employed, however, it is almost certain that this does not occur. Probably neutralization only proceeds to the formation of sodium bicarbonate. If so, the question is whether the detergent action is greatest at this pH, or should the bicarbonate be reconverted to normal carbonate by cautious addition of caustic soda?

Some processors replace olein with emulsifiable mineral oil, said to be removable by water alone. The best choice of oil is still open to question. J. C. Schofield. *J. Soc. Dyers & Colorists* 61, 90-1 (1945).

Minima in Surface Tension

A study of the curves for surface and interfacial tension against the concentration of surface-active agents shows that the interfacial tension-concentration curve for solutions of pure sodium lauryl sulfate against benzene shows no pronounced minimum. However, a solution of a mixture of pure sodium lauryl sulfate and pure sodium heptadecane-2-sulfate in a ratio of 100:1 mol, does exhibit a pronounced minimum in the interfacial tension-concentration values against benzene.

Minima in such curves have been produced by deliberate contamination of solutions of pure primary or secondary alcohol sulfate with a second

surface-active material. These minima occur in both surface tension and interfacial tension measurements at bulk concentrations where the relative surface concentration of the minor component is at a maximum. The selective adsorption technique used in this work may be of value as a test in ascertaining whether or not any minima in surface or interfacial tension-concentration curves exist for systems supposedly containing only one surface-active component. Gilbert D. Miles. *J. Phys. Chem.* 49, 71-6 (1945).

Silicates in Water Systems

Wartime shortages of labor and materials increase the difficulties of maintenance of small water systems. The life of piping and plumbing fixtures can be greatly increased by the addition to the water of small amounts of sodium silicates. Hot water can be treated by passing a small part of it over a fairly siliceous silicate, Na_2O to SiO_2 of 1:3.3. Various methods may be used to feed sodium silicate solutions into cold water. Laundries have found such treatment of value with zeolite-softened water. Actual field tests show improved conditions with steel after 17 years of treatment. Yellow brass is also protected.

The minimum dosage of a sodium silicate required to give a good degree of inhibition of corrosion is equivalent to 8 p.p.m. of silica in the usual waters. Larger amounts of silicates are required when the water contains considerable amounts of chlorides. After the protective film is formed, it can be maintained by feeding less silicate, but at least 4 p.p.m. of residual silica must be present in the usual waters. Wm. Stericker. *Ind. Eng. Chem.* 37, 716-20 (1945).

Waste Fat Recovery

Waste fat is dissolved in a fat solvent and the solution subjected to purification by passage through a column of adsorptive material. After removal of coloring matter by this means, the fat is treated with an antioxidant. J. Lyons & Co. Ltd. and Norman D. Sylvester. British Patent No. 558,150; through Chem. Abs.

Soap as Emulsifying Agent

The emulsifying power of a substance such as soap is dependent on its specific properties in water. Soaps are "emulsoids" and form colloidal solutions, with the colloidal aggregate absorbing water into their inner structure. Such systems in which water is dissolved in soap have especially good emulsifying properties, for example, oleates and linoleates.

The lowest members of the fatty acid series produce true solutions and do not emulsify. The higher we go in the fatty acid series, the closer we approach the typical behavior of soap. With a length of carbon chain where this property just begins, a small rise in temperature destroys emulsifying power, because the colloidal solution changes to a true solution.

The sodium soaps of palmitic and stearic acids do not emulsify at lower temperatures. As soon as the temperature is raised to a point where water dissolves in the soap colloid, stable emulsions are produced. A. Davidsohn. *Am. Perfumer* 47, No. 5, 52-4 (1945).

New Invert Soaps

Dodecyl, tetradecyl and hexadecyl ethers were prepared from N-ethylol morpholine. These were converted into representative tertiary amine salts. Seventeen such salts were identified by their melting points and nitrogen content. J. B. Niederl, M. Wolf and E. Slobodiansky. *J. Am. Chem. Soc.* 67, 1227-8 (1945).

Salt-free Sulfonates

To produce salt-free, anhydrous sulfonates from saponifiable oils, and their fatty acids, the material is partially dehydrated by subjection to heat under reduced pressure. The partially dehydrated material is then dispersed in an anhydrous organic solvent and the precipitated inorganic salts are separated. Solvent and residual water are removed by distillation. A suitable solvent is isopropyl alcohol. F. Kapp, L. J. Mosch, and E. T. Woods, to National Oil Products Co. Canadian Patent No. 429,176; K. T. Steik, to National Oil Products Co. Canadian Patent No. 429,177.



EMULSOL ★

PRODUCTS FOR THE CHEMICAL INDUSTRY

FOR MANUFACTURERS
WHOSE PRODUCTS OR
PROCESSES INVOLVE
USE OF INTERFACE
MODIFYING AGENTS
FOR:

- Wetting
- Adsorbing
- Spreading
- Dispersing
- Emulsifying
- De-emulsifying
- Peptizing
- Penetrating
- Foaming
- De-foaming
- Washing
- Sudsing
- Cleansing
- Sanitizing
- Bodying
- Solubilizing
- Deflocculating

For a quarter of a century Emulsol specialists have pioneered in the field of surface active chemistry. The results of their efforts are embodied in a group of distinctive specialty chemicals for the chemical processing and manufacturing industries . . . chemicals which are contributing much to new standards of product quality and stability, and of production efficiency and economy. Included, also, are new and exclusive specialties which can help you with your new product program.



★ *Send for this*
**NEW CATALOG OF
SYNTHETIC
ORGANIC
CHEMICALS**

ASK FOR CATALOG No. 44



THE EMULSOL CORPORATION
59 EAST MADISON STREET - CHICAGO 2, ILLINOIS



No. 594Q
SCREW CAP

**A Leakproof
Container** that can
be depended upon for safety in
shipping

**INLAND STEEL
CONTAINERS**

Container No. 594Q is designed for shipping thin liquids. Unusual strength is provided by the five thickness chime made with the double seaming method of attaching head and bottom. The thinnest of liquids can be safely shipped in this drum type container that stays leakproof even with rough handling. Three styles of openings can be furnished—



No. 594Q
SCREW CAP

No. 594R
SWIVEL SPOUT

No. 594LVP
PUSH-PULL
SPOUT



INLAND STEEL CONTAINER CO.
Container Specialists

6532 S. Menard Ave., Chicago 38, Ill.

Plants at:
CHICAGO • NEW ORLEANS • JERSEY CITY

Call for Continued Fat Salvage

The need for American housewives to continuing salvaging and turning in used household fats was explained in a recent release from the War Advertising Council, Washington, and distributed by the American Fat Salvage Committee, Inc., New York. "Domestic production," the release states, "which has never been able to fully compensate for the loss of imports from the Pacific, is down this year and it will take many months to bring imports back to peacetime levels." Meanwhile, in peace, as in war, "there is a tremendous demand for fats and oils," it is further explained. Even though the war has ended, we have as yet been unable to import any great quantity of oils or oil bearing materials from the East Indies and the Philippines; South American oil imports are due for a decline and domestic output is lowered, mainly due to a reduction in lard and factory grease production, the release states in summarizing the causes for the oils and fats shortage and the need to continue

salvage of used household fats. In addition to our own great need for fats and oils for industrial reconversion purposes, continental Europe is in great need of fats and oils. Diversion of olive oil from exporting countries in the Mediterranean to help fill Europe's needs will mean just that much less oil that might have come to the United States.

Stumbo Joins Owens-Illinois

Dr. Charles R. Stumbo, who for the past six months has been engaged in research work on antibiotics at Michigan State College, has joined the process and product research division of Owens-Illinois Glass Co., Toledo, as supervisor of bacteriology research. From 1937 to 1939 he was an instructor in bacteriology at South Dakota State College and from 1941 to 1944 he was research bacteriologist and later assistant director of research in the laboratories of John Morrell and Co., Ottumwa, Ia. He received his Ph.D. from Kansas State College while carrying on research work on plant

diseases in the division of Microbiology of the U. S. Dept. of Agriculture in 1940 and 1941.

Evans Shows New Chemicals

New synthetic organic chemicals, some of which may have postwar insecticide applications, were shown by Evans Chemetics, Inc., New York, at a press showing at the Hotel St. Regis, Oct. 25. In addition, the company showed a number of its wartime accomplishments for the armed forces. Some of the chemicals for postwar usage are entirely new, while others have been known but have not been commercially available.

At about the same time Evans announced the recent arrival in the United States of Alan B. Bell, technical director of Evans Chemicals, Ltd., from England. Mr. Bell, it was announced, is here for the exchange of technical ideas, the formation of better liaison, and the extension of export business for both Evans Chemetics, Inc., and Evans Chemicals, Ltd.

The source of good



The production of good soap demands the best mechanical equipment available. Simon machines are constantly undergoing developments and improvements designed to increase efficiency and economy. We manufacture a complete range of machinery — supply single machines or complete installations for the largest soap works. Export orders will receive special attention.

HENRY SIMON LTD.

SOAP MACHINERY SPECIALISTS

CHEADLE HEATH

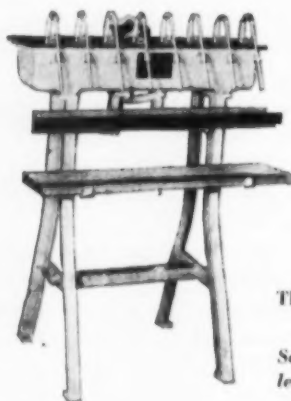
STOCKPORT, ENGLAND



THE "SIMON"
3-ROLL SOAP FLAKING MILL

For Filling SODIUM HYPOCHLORITES

WHERE large production is not required with Fully Automatic High Speed Rotary Fillers, the U. S. SIPHON FILLER is giving excellent satisfaction in filling liquid Bleaches, Deodorants, Disinfectants, Germicides, etc., into containers. It requires no power to operate and is automatic in operation, except for placing and removing containers on machine. It is widely adaptable as to products handled and size of containers to be filled.



The U. S. IMPROVED
Siphon Filler

Send for our new bulletin on this machine.

The U. S. Siphon Filler will accomplish quick and rapid filling with no tedious delays for adjustments, bringing the cost-per-unit filling down to a minimum.

For use on Sodium Hypochlorides, machines are made of Glass and Hard Rubber construction, except for Filling Tubes. Filling Tubes can be supplied of Hard Rubber and Silver construction or Plain Brass. Construction on standard machines is of Stainless Steel and Tubes are Brass and Bronze Tinned.

U. S. BOTTLERS

Machinery Co.

4011 N. ROCKWELL ST., CHICAGO

MANUFACTURERS OF

PUMPS
CAPPERS
FILTERS
CONVEYORS
WASHERS & DRYERS
WASHERS
COOKERS
FILLERS

DRYMET*
(Sodium Metasilicate—Anhydrous)
GRANULAR OR FINES

CRYSTAMET*
(Sodium Metasilicate—Pentahydrate)
REGULAR GRIND

DRYORTH*
(Sodium Orthosilicate—Technically Anhydrous)
REGULAR GRIND DUSTLESS

DRYSEQ*
(Sodium Sesquisilicate—Technically Anhydrous Equivalent)
REGULAR GRIND DUSTLESS

THE COWLES DETERGENT CO.
7016 EUCLID AVENUE • CLEVELAND 3, OHIO

Johnson Establishes Fellowships

S. C. Johnson & Son, Inc., Racine, Wisc., have established a graduate fellowship for work in chemistry and chemical engineering at the University of Wisconsin, at Madison, it was learned recently. The grant will be for \$4,500 to finance study under the direction of Prof. H. A. Schuette. Other schools where Johnson fellowships are being established are Northwestern, Ohio State and Cornell universities, Michigan State College and Massachusetts Institute of Technology.

B. T. Bush, Jr., Joins Firm

B. T. Bush, Jr., formerly of the U. S. Naval Reserve, has joined Bush Aromatics, Inc., New York, the company announced last month. A graduate of Hamilton College, he entered the Naval Reserve in Aug., 1940, as an aviation cadet. He has been flying for the Navy since, ferrying aircraft and doing instruction work in the United States and Central America. He was discharged from the Navy at San Diego in September and is now living with

his wife and two daughters in Brooklyn.

Rug Cleaners to Meet Feb. 4-6

The first annual convention of the National Institute of Rug Cleaners will be held in Chicago, Feb. 4, 5 and 6, at the Hotel Continental, it was announced by the Institute Oct. 29. An attendance of between 400 and 500 is expected. Besides speakers conversant with the problems of the industry, there will be round table discussions covering all phases of rug cleaning operations. There may also be exhibits by equipment manufacturers, clinics by soap and detergent producers as well as plant demonstrations of modern methods used by Chicago rug cleaners.

Succinate Derivatives

Di-sodium and tri-sodium salts of sulfosuccinamates have good foaming and detergent properties. The potassium and ammonium salts are similar. K. L. Lynch, to American Cyanamid Co. U. S. Patent No. 2,368,067.

New Textile Agents

The "Dianols," a series of synthetic wetting agents developed primarily for post-war sales, are now available to the textile industry. Made by the Quaker Chem. Products Corporation of Conshohocken, Pa., they are claimed to have a high efficiency in terms of cost and to be applicable to all phases of wet textile processing in solutions of pH 1 to 12. Application is suitable to all types of fabrics.

Schroeder Joins Roycemore

W. T. Schroeder has resigned as sales manager of G. H. Packwood Mfg. Co., St. Louis, effective Nov. 1, to join Roycemore Toiletries, Inc., Chicago, as director of sales, it was learned recently. Mr. Schroeder had been with the Packwood organization for five years, and prior to that was with Colgate-Palmolive-Peet Co., Jersey City, N. J., for twelve years, as their general branch manager in both Brazil and the Philippine Islands.

CRESYLIC ACID — FORMALDEHYDE AROMATICS

Phenyl Ethyl Alcohol
Methyl Acetophenone
Acetophenone
Geranyl Acetate
Yara Yara

Phenyl Ethyl Acetate
Amyl Cinnamic Aldehyde
Benzyl Acetate
Benzophenone
Nerolin

For Soaps, Perfumes, Cosmetics, etc

ASSOCIATED COMPANIES

KAY FRIES CHEMICALS, INC.
NEW YORK, N. Y.

CHARLES TENNANT & CO., CANADA, LTD.
TORONTO, CANADA

AMERICAN-BRITISH
CHEMICAL SUPPLIES, Inc.
180 MADISON AVE., NEW YORK

TRADE MARKS GRANTED

(From Page 61)

416,732. Rat poison. Filed by Shaff Laboratories, Brooklyn, Mar. 17, 1945. Serial No. 280,028. Published July 10, 1945. Class 6.

416,757. Insecticidal composition for use on plants. Filed by Niagara Sprayer and Chemical Co., Middlesport, N. Y., Apr. 6, 1945. Serial No. 481,732. Published July 10, 1945. Class 6.

416,766. Solution for treatment of athlete's foot. Filed by American Druggists Syndicate, Inc., Long Island City, N. Y., Apr. 21, 1945. Serial No. 482,410. Published July 3, 1945. Class 6.

416,769. Insecticide. Filed by Swift & Co., Chicago, Apr. 25, 1945. Serial No. 482,598. Published July 10, 1945. Class 6.

416,813. Insecticides. Filed by E. M. Peet Mfg. Co., Council Bluffs, Ia., Mar. 29, 1944. Serial No. 468,814. Published July 17, 1945. Class 6.

416,814. Insecticides. Filed by Phillips Petroleum Co., Bartlesville, Okla., Apr. 13, 1944. Serial No. 469,309. Published July 24, 1945. Class 6.

416,832. Bubble bath. Filed by Ceda Distributing Co., Rochester, N. Y., Dec. 5, 1944. Serial No. 477,247. Published July 24, 1945. Class 6.

416,837. Insecticides. Filed by Relaco Mfg. Co., New York, Dec. 16, 1944. Serial No. 477,673. Published July 17, 1945. Class 6.

416,842. Chemical rust remover. Filed by Allen G. Mason and Pierson B. Waller, Morganfield, Ky., Jan. 10, 1945. Serial No. 478,463. Published July 17, 1945. Class 6.

416,855. Chemical rust remover. Filed by Bell Co., Chicago, Feb. 21, 1945. Serial No. 480,041. Published July 17, 1945. Class 6.

416,907. Bacterial antiseptic and germicide. Filed by Hoffman-La Roche, Inc., Nutley, N. J., Apr. 23, 1945. Serial No. 482,311. Published July 24, 1945. Class 6.

416,944. Liquid floor polish. Filed by Hillyard Chemical Co., St. Joseph, Mo., May 9, 1944. Serial No. 470,075. Published July 24, 1945. Class 16.

416,967. Wood floor preservative. Filed by L. Sonneborn & Sons, Inc., New York, Feb. 24, 1945. Serial No. 480,203. Published July 17, 1945. Class 16.

416,988. Washing and cleaning compound for floors. Filed by Carsello Chemical Products, Chicago, Mar. 31, 1945. Serial No. 480,572. Published July 31, 1945. Class 4.

416,997. Furniture polish. Filed by Koehler Co., Chicago, Apr. 5, 1945. Serial No. 481,742. Published July 31, 1945. Class 16.

417,072. Compound for sterilizing and treating water. Filed by Diversey Corp., Chicago, Apr. 17, 1944. Serial No. 469,386. Published Aug. 7, 1945. Class 6.

417,081. Chemical preparations for removing carbon and sludge from internal combustion engines. Filed by Turco Products Corp., Los Angeles, June 21, 1945. Serial No. 471,501. Published Aug. 7, 1945. Class 6.

417,111. Coconut shampoo. Filed by Rocket Products Co., St. Louis, Nov. 28, 1944. Serial No. 476,962. Published Apr. 3, 1945. Class 6.

417,117. Insecticides. Filed by Smith Manufacturing Co., Utica, N. Y., Nov. 1, 1944. Serial No. 475,999. Published July 31, 1945. Class 6.

417,171. Cleaning and polishing composition. Filed by Poly-Clene Co., Elizabeth, N. J., Mar. 14, 1945. Serial No. 480,924. Published July 31, 1945. Class 13.

417,174. Bacterial inhibitor in powdered form for incorporation in ice. Filed by Tucker General Sales Agency, Seattle, Mar. 17, 1945. Serial No. 481,035. Published Aug. 7, 1945. Class 6.

417,215. Pharmaceutical ointment for use as a bactericide and germicide. Filed by Wallace Laboratories, Inc., New Brunswick, N. J., Apr. 20, 1945. Serial No. 482,405. Published July 31, 1945. Class 6.

New Proctor & Schwartz Branch

Proctor & Schwartz, Inc., Philadelphia drying machinery manufacturers, have opened a new branch office at Charlotte, N. C., the company announced early in October. The new branch, which replaces the agency

operated in that city, will be in charge of John R. Schenck, formerly a Major in the U. S. Army, with which he served for three years. Before entering the service, Mr. Schenck was associated with the agency which represented Proctor & Schwartz in Charlotte.

Toilet Goods Research Chartered

A charter was granted early last month to the Toilet Goods Research Foundation, Inc., New York, as a membership corporation without capital stock by the New York Secretary of State. According to the charter filed with the Secretary of State, the principal office is to be in New York City. The purpose and objective of the organization is the study of the scientific and technical aspects of toilet goods.

New Du Pont Chemical Plant

Quantity production of new organo-metallic fungicides, organic-sulfur seed, turf disinfectants, phenothiazine, and other crop saving chemicals is planned upon completion early next year of the new \$2,500,000 manufacturing plant, now under construction on the Houston-Galveston canal near La Porte, Tex., E. I. du Pont de Nemours and Co., Wilmington, announced last month. Manufacture of several products, now being made in limited quantities elsewhere, will be transferred to La Porte for production in amounts to meet anticipated future needs. One of these is phenothiazine, a livestock remedy that U. S. Department of Agriculture has stated kills more kinds of internal parasites in more kinds of animals than any other known chemical. Other agricultural chemicals to be made at the Texas plant include two new materials known as "Fermate" fungicide and "Zerlate" fungicide, based on the iron and zinc salts, respectively, of dimethyldithiocarbamic acid. And, in addition, the Texas plant will produce "Arasan" seed disinfectant and protectant and also a turf disease fungicide, the latter two based on the chemical compound known as tetramethylthiuramdisulfide.

SANITARY PRODUCTS

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties

4

POWCO
BRAND
REG. U.S. PAT. OFF.

DDT PRODUCTS

JP No.10

A DDT powdered insecticide containing 10% dichloro diphenyl trichloroethane (DDT) and 90% sesaminized pyrethrum marc. Designed specifically to be packaged as a household insecticide powder, roach powder, or flea and louse powder. Combination of DDT and pyrethrum marc (activated with sesamin) gives a much more rapid and spectacular insecticide than is possible with straight DDT dust. JP 10 is a brown dust and hence meets certain state laws requiring that DDT dust be colored to avoid or minimize accidental poisonings.

JP No.50

A DDT dust concentrate containing 50% by weight of dichloro diphenyl trichloroethane (DDT) technical. Specially milled and processed so that finished DDT dusts may be manufactured in standard dust mixing equipment. Its use eliminates necessity of installing ball mills or similar special equipment normally required in the processing of DDT. JP 50 is a free-flowing dust of extremely fine particle size, averaging 6 to 8 microns. Fine particle size gives maximum effectiveness to the DDT and consequently higher killing power. JP 50 may be used in manufacture of agricultural dusts, wettable spray powders, flea and ant powders, animal louse powders, and animal dips.

JP No.25

A liquid, water miscible DDT spray concentrate containing 25% by weight of technical grade dichloro diphenyl trichloroethane (DDT) combined with a hydrocarbon solvent and a special emulsifying agent. Designed for use in water-base residual barn sprays, mosquito larvicides, stock sprays and dips, and certain other specialized uses where a water-base DDT spray is recommended.

JP No.30

A liquid, oil soluble DDT concentrate containing 30% dichloro diphenyl trichloroethane (DDT) and 70% of a special hydrocarbon solvent. Designed for use in oil base insecticides, aerosol formulations, DDT emulsions, mosquito larvicides, and numerous DDT residual spray products. JP 30 is particularly adapted for use in household and cattle spray formulations where stability, lack of odor and irritation are necessary requisites. It is designed to give stable solutions of DDT in insecticide base oils at reduced temperatures in both water-white kerosene and odorless type base oils.

JOHN POWELL & Co., INC.

One Park Avenue, New York 16, N. Y.

The First Truly Different
FLY SPRAY DEODORANT
in a decade
PERFUME OIL FRUIT BERRY
MM&R

"Ah! Refreshing!"

MM&R helps spray-manufacturers remove the one major bugaboo of most "bug" sprays
 —their typically tell-tale odor.

With the new **PERFUME OIL FRUIT BERRY MM&R**, odor becomes a merchandising asset, instead of a sales liability . . . a refreshing addition instead of a necessary evil.

This utterly *new and different product* is both an odor neutralizer and a perfume. Not only does it neutralize the odors of toxic agents, it provides the finished spray with (we repeat) a *refreshing* and welcome fragrance . . . a delicate odor reminiscent of ripe, ready-for-picking berries on the vine.

Remarkable, indeed, that so light a fragrance can cover heavy and penetrating odors. You'll marvel even more after you have made your first tests.



MAGNUS, MABEE & REYNARD, INC.

ESSENTIAL OILS, BALZAMS, AROMATIC CHEMICALS, BASIC PERFUMES, SPRAYING MATERIALS . . . SINCE 1895

16 DESBOROUGH STREET, NEW YORK CITY 17 NORTH LA SALLE STREET, CHICAGO

San Francisco: Braun-Knecht-Heimann Co. • Los Angeles: Braun-Knecht-Heimann Co. • Portland: Van Waters & Tarver • Spokane: Van Waters & Tarver • Richardson Agencies, Ltd., Toronto



No matter where you put them

Coated Lithwite Cartons

SPEAK UP... AND SELL

THEY HAVE THE EDGE ON THE OLD "SILENT SALESMAN" TYPE OF PACKAGE

WHETHER YOUR PRODUCT is advertised, or not advertised, better display at the point of sale helps make *more* sales . . . and folding cartons of *Coated Lithwite* give products *outstanding* display. And why? Because this revolutionary, machine-coated paperboard makes pictures and colors more eloquent, gives voice to your sales story.

Smooth, velvety *Coated Lithwite* cartons have a quality look and feel. But more important, product pictures on these finer folding cartons stand out with a color brilliance and realism that implants a buying urge.

Deliveries . . . when? We wish we could say. But right now our carton plants are producing to

capacity, and the backlog of orders is the greatest since we pioneered *Coated Lithwite* six years ago. Here's a suggestion: Get in touch with a Gardner-Richardson sales representative and discuss the matter of future delivery on *Coated Lithwite* cartons.

Note These Outstanding Coated Lithwite Advantages

Made by a revolutionary process. *Coated Lithwite* is the brighter, whiter paperboard that is formed, made and coated in one high-speed operation. Proved and improved for six years.

Means more eye-appealing cartons. *Coated Lithwite* has a smooth, rub-resistant, chalk-free surface. Forms a better base for printing inks and plates—reproduces even the smallest type cleanly, crisply. Brings colors up brilliantly—gives halftones a sharp realism.

Fewer jammers and leakers. *Coated Lithwite* scores without flaking or shattering. Takes a positive, tight seal.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard
MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

November, 1945

Say you saw it in SOAP!



INSIDE NEWS

NOVEMBER

PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y.

1945

Canned Foods Provide Low-Cost Source of Ascorbic Acid

Before the age of steam, and for hundreds of years, seamen on long voyages were victims of scurvy. As we all know now, this was due to the lack of variety in the food on ship-board. But it was not until 1600 that the disease was successfully challenged. For then it was discovered that by distributing a ration of lemon juice on long trips, British seamen were protected against scurvy. Later on, the use of lime juice gave them the name of "Limcys".

A long period of trial and error set in, and it was not until recent years that the ascorbic acid in the citrus juices was found to be the anti-scurvy ingredient. Ascorbic acid, also known as vitamin C, is usually found in fresh fruit and vegetables.

When the diet does not furnish a sufficient amount of vitamin C, the deficiency can be overcome by a manufactured pure crystalline vitamin C. The product can be bought at practically all drug stores and is inexpensive enough to compete with citrus fruits as a source of ascorbic acid. A pound of this manufactured vitamin C has the same scurvy-preventing power as a ton of oranges and costs no more. One pound of vitamin C will prevent scurvy in one hundred adults for three months.

Patients suffering from gastric or duodenal ulcer, diabetes, or certain allergic diseases are sometimes advised by their physicians to give up fresh vegetables and fruits. Not eating vegetables and fruits often paves the way for scurvy and other vitamin-deficiency diseases. In such cases, these diseases can be prevented by taking the required amount of vitamin concentrates or synthetic vitamins.

Most fresh fruits contain some vitamin C. Amounts differ, though, for the same fruits according to variety. Juices from oranges, lemons and grapefruit rate highest in vitamin C content. Weight for weight, they are equally potent.

Orange juice is equally potent whether fresh, properly canned, or chilled and frozen. In contrast, oranges in storage for a month lose about 40 percent of their potency. Anyone eating oranges that have been in storage a month will have to eat more oranges to make up for the storage loss.

Orange and lemon peel, on the basis of weight, are from two to three times as potent as the juice. Yet when they are processed into marmalade, their ascorbic acid content is negligible.

Tomato juice has about half the vitamin C content of citrus juices. And here too, we find that the canned juice is as good as the fresh juice.

The quantities of nearly all non-citrus fruits that can be included in the ordinary diet gives too little vitamin C to be worth considering. Exceptions to this are strawberries, raspberries and gooseberries. On a weight basis, they are about half as rich as orange juice. And, except during the peak of the season, they are uneconomical in comparison with other equally good sources of ascorbic acid.

Potatoes have been the chief source of vitamin C for most people for the past century and a half. Uncooked, potatoes contain from 35 to 75 milligrams per pound. However, much is lost in cooking if they are sliced before cooking. A potato, cooked whole, contains about 15 milligrams.

Fresh raw cabbage is one of the cheapest rich vegetable sources of vitamin C. It contains from 100 to 200 milligrams per pound before cooking. Cooking kills nearly all the vitamin.

Cow's milk is also a poor source because half the vitamin C is lost in pasteurization. Bottle-fed babies need a supplement of citrus fruit and tomato juice. On the other hand, most canned condensed milks retain a considerable portion of their vitamin C; the modern roller-drying process preserves nearly all the vitamin.

Canned orange juice is considered by authorities to lead all other canned foods in ascorbic acid values. Research has established an average of 39.4 mg. per 100 gm. A single 8-ounce glass of canned orange juice can be expected to supply more than the recommended daily allowance of 75 mg.

Two other good sources of ascorbic acid in cans are canned grapefruit juice (33.8 mg. per 100 gm.) and canned grapefruit segments (24.6 mg. per 100 gm.). And canned foods compare favorably with fresh foods because of the relatively small average losses in the commercial canning process.

Because all canned foods are processed — ready to warm or chill and eat — they rate high in nutritive values. This contrasts with values quoted for certain raw foods, including some vegetables, which lose much of their vitamin potency both in transit from field to kitchen and in preparation in homes.

1117

sugar, a yeast-available nitrogen compound, and the vitamins thiamine, pyridoxine, and nicotinic acid.

With all of these, the yeast is reported to give a gas-production curve like that for flour with salt and a good source of nitrogen. Without any one of the announced essential ingredients the rate decreases.

1118

Electronics for Blanching

Blanching vegetables for freezing or dehydration in order to produce a negative catalase test involves a loss of vitamins and frequently a loss of texture of the vegetables. Electronic heating accomplishes, it is found, the same enzyme inactivation, with an almost negligible loss of ascorbic acid, and great improvement in texture retention.

1119

New Wire Coatings

Last Longer

Brittleness and diminished adhesion, resulting from oxidation ageing, have always been a drawback to the use of lacquer coatings on aluminum wire. Wires coated with oil-free phenolic lacquers, which do not absorb oxygen, can be stored for six months and used at temperatures up to 135°-150° C.

1120

New Stronger Insecticide

Benzene hexachloride, new insecticide (called 666 in Great Britain) has been proved to be nine or ten times more toxic than DDT when tested in deodorized kerosene insecticide sprays against houseflies. DDT was shown to be approximately twice as toxic as pyrethrins. Both DDT and benzene hexachloride were found to be less effective than pyrethrins in knock down value.

1121

Even Used Cans Proven Good

Discarded No. 2 tin cans have been shown to have a definite value in a recent test. After the tins were thoroughly cleaned, both red and black raspberries were frozen in the cans, which were covered by a sheet of cellophane or waxed paper held securely in place by a tight band or string. They were examined at monthly intervals. After seven months' storage, the fruit was found to be kept as well as those in sealed cellophane containers.

1122

TO PROTECT PAINTS that protect surfaces



...there's nothing like cans!

Food for Yeast

There has been much research and much speculation as to what elements in bread dough causes the rapid production of gas by

yeast — a production not equalled in any of the synthetic media which had been tried. Now a group of research workers announce that the essential ingredients are potassium, magnesium, phosphate and sulphate ions,

NATIONAL CAN



PLANTS: NEW YORK • BOSTON • BALTIMORE • CHICAGO • HAMILTON, OHIO • FORT WAYNE, INDIANA

Household Fly Spray

Usually 1 plus 1 equals 2. But, for some insecticides, chemists have proved recently that 0 plus 1 may make at least 3.

Sesamine comes from sesame oil and will kill no flies. Pyrethrum kills many flies. Mix these two together, and the mixture will kill three to four times as many flies as pyrethrum alone. The practical result is a more deadly household fly spray now on the market. In this case, 0 plus 1 equals at least 3.

When we entered the war, U. S. Department of Agriculture chemists made use of just such a mixture in the "aerosol bomb". This bomb is a spray device used by the armed forces to protect troops against disease by killing mosquitoes and flies in tents, airplanes, barracks and mess halls. It is a fortunate thing for the soldiers that some insecticides do not act according to arithmetic.

Chemists call this effect a synergy. Synergy means that two substances working together produce a greater effect than the sum of each when working separately. Applied to the farm, synergists increase the effectiveness of insecticides as they are used against crop pests. This saves time and money. It conserves materials. In the case of the aerosol bomb, the spray is not only more effective . . . it helps save more lives and better protects public health. After the war it may serve this same purpose in the farm home.

So far, synergists have been most practical in pyrethrum mixtures and against household and disease-carrying pests such as the mosquito and housefly. The right combination of synergist with rotenone, nicotine, DDT, or other insecticides has not yet been found. Experiments are seeking synergists that will help farmers combat crop pests at less cost. When some synergist makes 0 plus 1 equal 3 on the farm, it will mean considerable savings to farmers, and more effective pest control. 1123

Selecting Tomatoes for Higher Vitamin Content

Tomatoes are a popular food. Their vitamin and mineral contents are their most valuable contribution to human nutrition. Studies have been made with large numbers of well known commercial canning varieties to find their nutritional value. In connection with the study, bio-chemists developed rapid determinations for certain vitamins. This was necessary because of the large numbers of tomato fruits that had to be tested quickly.

During the past season the most suitable commercial varieties were crossed with wild relatives from South America. The latter types have tested as much as threefold the vitamin C content of the highest commercial variety. Conclusions of other nutritional factors are equally as interesting. 1124

Technical Topics

ASCORBIC ACID ADDED TO MILK—Ascorbic acid can be added to evaporated milk in sufficient quantity to bring the total to 100 mg. per liter on a reconstituted basis, and this amount is maintained well in storage. Thus, with the customary vitamin D, evaporated milk makes another advance as a baby food. 1125

BETTER CARP—Carp was "very favorably" received by a large test group recently. In canning, the fish is steamed, then flaked, filled in to the cans and processed. Its proponents claim that it tastes like practically anything—chicken, beefsteak, tuna fish—except carp. 1126

SUPERIOR CELLULOSE—A new method announced for preparing a superior cellulose includes the use of the chemical properties of soap. 1127

POLISHING COMPOSITIONS—A new formula is reported for a concentrated emulsifying agent in polishing compositions using soap. 1128

PROTECTS CHROME YELLOW—Chromé yellow (lead chromate) is made proof against the darkening effects of exposure to light by the addition of small proportions of white hydrous oxides of aluminum and related elements (titanium) and a colorless compound of a rare earth metal (cerium hydrous oxide). 1129

PRECIPITATED SULPHUR SUSPENSION MORE STABLE—Suspension of precipitated sulphur, in lotions and similar preparations is finer and more stable when methylcellulose is added to the liquid vehicle. 1130

SULFA DRUGS AND DYES—It is reported that sulfa drugs can be made effective against bacteria by mixing them with certain dyes. The discoverer promises therapeutic value. 1131

ASBESTOS PAINT—Asbestos paint is offered as better than cresylic compositions for the protection of structural timbers, against termites and other wood-boring insects. The paint contains 10 percent of short-fiber asbestos in a quick-drying asphalt-pil-ing coating. 1132

CRAYONS WRITE ON WET GLASS—Crayons which write facily on glass, even when glass is wet and cold, is possible when about 7 percent of a cationic detergent, such as cetyltrimethyl-ammonium bromide, is added to the paraffin-beeswax-petrolatum base in which the fat-soluble dye is held. 1133

DEWAXING LAC—A simplified process for the dewaxing of lac is reported by wash-

ing the seedlac with dilute alkali solution, dissolving in heated sodium carbonate solution, straining, refluxing with sodium carbonate, cooling, filtering, precipitating with dilute sulphuric acid and drying. 1134

GLYCERINE—Glycerine is now said to be produced by action of a strain of bacteria on a glucose solution. 1135

EFFECTIVE OIL FOR FLY SPRAY—Recent research shows that Oil of Backhousia is the most effective of essential oils as an activator for pyrethrins in fly spray. 1136

DYESTUFF REVEALED LEAKS—Fluorescein L T, a strong dyestuff, was used to locate breaks in the huge pipeline carrying fuel across the English Channel. The dye produced large colored patches on the sea surface so that divers could quickly repair the damage. 1137

POLISHING WITH COFFEE GROUNDS—Coffee grounds have been found to have the right degree of abrasiveness for cleaning and polishing airplane cylinders by a prominent airline. 1138

GERM-KILLER—Burdock weed, a forgotten old remedy, is now found to have the power to kill a number of germs. 1139

EXPLOSIVE IMPROVES OILS—Pentaerythritol, long recognized as a powerful explosive, also improves oils and resins for surface coatings. Early in the war, the fast and hard-drying oils essential for varnish, paint, enamel, printing ink and linoleum were imported from the Far East. Every effort was made to improve the lower and softer drying domestic linseed and soybean oils. Pentaerythritol has recently been developed as a suitable substitute and may eventually replace imported oils as the former can be produced more cheaply. 1140

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

NATIONAL CAN CORPORATION

Manufacturers of

SANITARY PACKERS CANS • PLAIN AND LITHOGRAPHED CANS FOR FOODS, DRUGS, OILS, PAINTS, VARNISHES • STEEL DRUMS AND PAILS

Deliveries Subject to Priority Ratings
(Advertisement)

6

HERCULES

Fast knockdown...**Thanite**

Makes a fast knockdown, high kill spray effective against household pests such as flies, mosquitoes, bed-bugs, silverfish, ants, and moths.

**Thanite + DDT Concentrate**

The addition of DDT to Thanite utilizes the best features of each toxicant. Makes a 100% "Knock-down," 100% "Kill" spray at very low cost.

**Thanisol 70**

A water-base toxicant especially recommended for use on livestock and in kennels. Thorough tests have demonstrated its effectiveness, its safety, and long-lasting repellency.

**thanite****THE FIRST AND ONLY**

The Quartermaster Corps of the U.S. Army *first* specified Thanite for its contact fly sprays and it has been in constant use ever since.

Thanite was the *only* synthetic toxicant approved by the Australian Dept. of War Organization of Industry for fly and insect spraying liquids.

TOXICANTS...

...Sure kill!



Thanisol 70 + DDT Concentrate

Water-dispersible—combines 10-day residual effect against horn flies with speedy knockdown and high kill of stable flies. Ideal for making fully-effective livestock sprays.



Aerosol DDT

Made only by Hercules for the armed forces, and now available, this type of DDT was selected because it keeps corrosion rate at a minimum.



Water Miscible DDT Concentrate

Water-dispersible—for use in sprays for barns, city dumps, garbage pails, industrial buildings where the residual effect of DDT is required.

Naval Stores Department
HERCULES POWDER COMPANY
INCORPORATED
961 Market Street, Wilmington 99, Del.

Send for our
new booklet

"Why Thanite?"



thanite

THE MODERN TOXICANT

*Reg. U. S. Pat. Office, by Hercules Powder Co.

NT-58R

REGAL PRESENTS **MIST-O-MIZER** *The* **IDEAL Aerosol Dispenser** WITH 3% DDT

Here it is, ready for delivery — REGAL "MIST-O-MIZER" — the high quality Aerosol used with such amazing results by the armed forces now attractively packaged for civilian use. REGAL filled millions of these non-inflammable, all-purpose, ready-to-use aerosol bombs for our fighting men and always met the rigid government specifications because of our strict laboratory control.

Now, REGAL Aerosol Insecticide, formulated according to government specifications, is available to millions of Americans eagerly awaiting this quick, easy and effective method of insecticide application. Out of a skilled organization and a modern plant with sufficient capacity to meet every peacetime requirement comes the perfect answer to supplying this huge market.



The REGAL 1-lb. "MIST-O-MIZER" containing DDT and pyrethrum comes in a new, handy, attractively designed package, 25 to the carton. It has the combined advantages of pyrethrum's rapid knock-down and DDT's lasting killing power. What's more, one pound of REGAL aerosol insecticide is as effective as two gallons of ordinary AA Oil spray. In addition, the container is sealed for the customer's protection against prior use.

"MIST-O-MIZING" is the most efficient, economical and safe way to dispense insecticides yet developed. Sealed spraying power — locked-in potency — does all the work. A quick twist of the patented finger-touch spray control value releases the chemical contents. And there's no pouring, no mixing, no messing, no pumping.

MIST-O-MIZER **The Ultimate in Insecticide Packaging**

MIST-O-MIZER

is Ready for Delivery NOW.

Especially designed for home use, these refillable REGAL "MIST-O-MIZERS" are not surplus material. Manufactured in complete accordance with the Interstate Commerce Commission requirements, and each shell will actually withstand pressures in excess of those requirements.

Each stand-up model is hydrostatically tested to 400 pounds per square inch, and one out of every 1,000 is tested to the breaking point—which is in excess of 1,500 pounds per square inch.

A threaded metal bushing brazed into the bottom of the "MIST-O-MIZER" contains an approved I.C.C. fusible safety plug. "Fool-proof" type valve is superior to anything heretofore offered to insure safety. The large diameter operating wheel keeps fingers a safe distance from chemical spray and can be unscrewed and removed without losing the insecticide.

DISTRIBUTORS! . . . The merchandising of the Aerosol "MIST-O-MIZER" has an exceptionally bright future in your territory. Get in touch with REGAL today to obtain complete information on our attractive distributor selling arrangement.



Above: Exterior view of plant.



Right: Interior view of Regal filling department.

REGAL CHEMICAL CORPORATION
115-117 Dobbin St., Brooklyn 22, New York



ENTOMOLOGICAL RESEARCH

As announced elsewhere in this issue, Dr. W. E. Dove, formerly in charge of the Division of Insects Affecting Man and Animals of the Bureau of Entomology and Plant Quarantine, has joined the Insecticide Department of Dodge & Olcott, Inc. to head our new Unit of Entomological Research, and will have under him a thoroughly competent and experienced staff including several of the Bureau men who contributed so heavily to the solution of the military problems of insect control.

We are greatly pleased at securing men of such caliber to undertake the work we have planned, and we believe their willingness to do so will be recognized as indicating the

standard of entomological research we expect to maintain.

Since time and effort are required to get work of this kind underway, and much more time must elapse before full results can come, we must warn our customers not to expect immediate miracles. We are immediately in a better position than ever before, however, to supply technical information on insecticides and insectifuges; and we can guarantee that in the future our products and our recommendations will be increasingly backed by the type of entomological and malacological information which has been too rare in the past, but which present and coming developments make increasingly necessary.

Dodge & Olcott, Inc.

180 VARICK STREET, NEW YORK 14, N. Y.

BOSTON • CHICAGO • PHILADELPHIA • ST. LOUIS • LOS ANGELES

Plant and Laboratories Bayonne, N. J.



"The bigger the family — the better the service"


You can say that *twice* about a big, smooth-running family like Continental's! It's bigger now and more efficient than ever.

We touch nearly every phase of packaging now. That's why, after careful analysis of your problem, we feel sure we can offer the perfect package for your product. Metal containers, liquid-tight

paper cups and containers, fibre cans and drums, steel pails and heavy-duty containers—we make them all.

The armed forces get first call on our facilities now. But keep your eye on Continental! And on Continental's trademark, too! The Triple-C stands for *one* company with *one* policy—to give you only the very best in quality and service.

Tune in: "REPORT TO THE NATION" every week over coast-to-coast CBS Network

CONTINENTAL  PAPER DIVISION	CAN COMPANY, INC. FIBRE DRUMS The Container Co., Van Wert, Ohio LIQUID-TIGHT Boothby Fibre Can Co., FOOD CONTAINERS Roxbury, Mass. PAPER CUPS AND Mono Containers FOOD CONTAINERS Newark, N. J. COMBINATION PAPER AND METAL CONTAINERS Headquarters: 330 W. 42d St., New York 18, N. Y. 13 Plants — Sales offices in all principal cities
---	--



Continental Fibre Cans — These composite cans (with fibre bodies and metal ends) meet a definite packaging need. They bridge the gap between all-metal cans and paper containers, folded boxes or bags. They're made for easy conveyor and filler handling, in a wide range of shapes, sizes, and diameters, with a great variety of metal dispensing closures—"naturals" for safe shipping of drugs, cosmetics and chemicals.

HI-TOX with D. D. T. added

We can now offer a carefully blended combination of two remarkable insecticide bases:—HI-TOX with its quick knockdown and kill, incorporated with D. D. T. for its long enduring qualities. A perfect union of two fine products aimed to give the manufacturer of fly and cattle sprays an insecticide concentrate thoroughly in harmony with the scientific advances of the times.

MORTICIDE and SUPER - MORTICIDE can also be obtained blended with D. D. T. We also offer a 40% Solution of D. D. T.

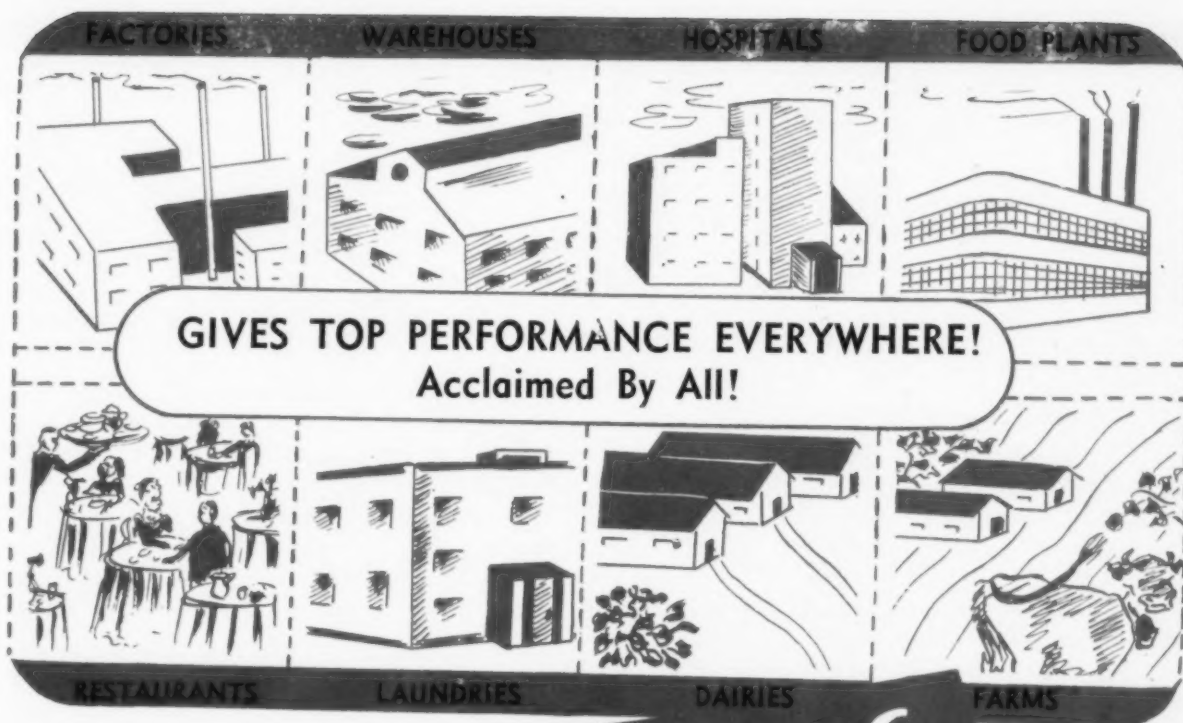
Write our office nearest you for full particulars, samples, etc.

Associated Chemists, Inc.



1906 N. HALSTED STREET
CHICAGO 14, ILLINOIS

EASTERN OFFICE: Velsor Wright Company, 8 West 40th St., New York 18, N. Y.
TEXAS OFFICE: The Carroll Company, 1323 Wall Street, Dallas, Texas



Non-Irritating

Non-Toxic

Germicidal

Fungicidal

ODORLESS
Sasoco Disinfectant
PATENT PENDING

Cleans, Disinfects,
Deodorizes
In ONE Operation

WITHOUT ANY ODOR

Available in
Phenol Coefficient:

2-3 HOUSEHOLD GRADE

4-5 INDUSTRIAL GRADE

8-9 HOSPITAL GRADE

Inquiries are coming in from all parts of the world, in response to our announcement of this sensational new odorless disinfectant. Here indeed is perfect sanitation. Odorless Sasoco Disinfectant can be used everywhere with complete safety and full confidence. It is non-irritating, dissolves instantly in water, and remains permanently stable in storage or in solution. Highly germicidal and fungicidal, of course. Has a crystal clear amber color. Unbiased laboratory tests constantly check its efficiency. Tests prove it is also highly effective when used in combination with soaps and alkaline detergents.

Packed in 55 and 30-gallon drums; 5 and 1-gallon cans.

SANITARY SOAP CO.

Since 1921

104 RAILROAD AVENUE

PATERSON 3, N. J.

Manufacturers of Soaps in Liquid, Paste and Powder Form



Now—MATCH THEIR BEST WITH YOUR MOST IN THE VICTORY LOAN!

Top off your good work on your Payroll Savings Plan with an outstanding showing in the Victory Loan—our last all-out effort!

Help bring our boys back to the homes for which they

fought—and give our wounded heroes the best of medical care—by backing the Victory Loan! You know your quota! You also know by past war-loan experience that your personal effort and plant solicitation are required to make your quota.



Sell the New F.D. Roosevelt Memorial \$200 Bond through your PAYROLL SAVINGS PLAN!

In rallies, interdepartmental contests, and solicitations, promote the new Franklin Delano Roosevelt Memorial \$200 Bond! Better than "cash in hand," Victory Bonds enable the buyers to build for the future—assure a needed nest egg for old age.

Keep on giving YOUR MOST to the Victory Loan! All Bond payroll deductions during November and De-

cember will be credited to your quota. Every Victory Bond is a "Thank You" to our battle-weary men overseas—also a definite aid in making their dreams of home come true! Get behind the Victory Loan to promote peacetime prosperity for our returning veterans, your nation, your employees-- and your own industry!

The Treasury Department acknowledges with appreciation the publication of this message by

SOAP AND SANITARY CHEMICALS



This is an official U. S. Treasury advertisement prepared under auspices of Treasury Department and War Advertising Council

First
PYRETHRUM

Then
DDT

TOMORROW?

... **FELTON** *always develops*
the correct Neutralizer Perfume!

Regardless of what the active insecticide is...or the base used
...Felton's extensive laboratory facilities and skilled perfumers
will develop the correct neutralizer perfume for your purpose.

Send us a sample of your unperfumed product and let Felton
chemists recommend the best odor mask for it.

No obligation whatsoever.



FELTON CHEMICAL CO., Inc.

599 JOHNSON AVENUE, BROOKLYN 6, N. Y.

BRANCHES IN BOSTON • PHILADELPHIA • SAN FRANCISCO • LOS ANGELES • ST. LOUIS
CHICAGO • DALLAS • MONTREAL • TORONTO • VANCOUVER • WINNIPEG • MEXICO CITY

MANUFACTURERS OF AROMATIC CHEMICALS, ESSENTIAL OILS, PERFUMES AND FLAVORS

Straight Talk from Santa!



"This year, more than ever before, I hope every package on my sled is festooned with Christmas Seals!

"I figure that makes it a double gift — a gift to all mankind. You see, *those seals save lives* — make possible a year-round program against tuberculosis.

"The need this year is greater than ever before. So that's why I say *make every package and letter count*. And—be sure to send in your contribution!

"Merry Christmas!"



BUY CHRISTMAS SEALS

Because of the importance of the above message,
this space has been contributed by

SOAP AND SANITARY CHEMICALS

FOR REPEAT SALES

In Today's Competition

THE RIGHT PREPARATION...



...THE RIGHT APPLICATION*

HUDSON Is Ready—Are You?

HUDSON is ready—right now—to help you round out your merchandising program—ready not only to recommend **BUT ALSO TO SUPPLY** the exact Sprayers or Dusters best qualified to assure successful application of your products. To save time, see your local directory for the name of your HUDSON representative. He is fully qualified to give complete information on HUDSON Sprayers and Dusters. Or write us direct. Do it today!

© 1945, H. D. H. MFG. CO.



Tested and Proved
EQUIPMENT

November, 1945

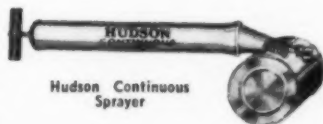
*Make This **HUDSON'S** Responsibility

First impressions are important. They can make or break future sales.

A housewife who buys your product for the first time naturally expects the best results. But she'll get the best results only if the sprayer or duster you sell with your product does the best job.

This is where HUDSON very definitely fits into the picture. As the world's largest manufacturer of Sprayers and Dusters, this company has designed and perfected equipment for the perfect application of any insecticide, disinfectant, moth product or deodorant. This means that the HUDSON line includes the exact Sprayer or Duster exactly suited to your products... one that will help win steady customers for your brand.

H. D. HUDSON MANUFACTURING COMPANY
589 East Illinois Street, Chicago 11, Illinois
Branches in Principal Cities in the U.S.A.



Hudson Continuous Sprayer



Hudson Duster



Hudson Electric Sprayer

Say you saw it in SOAP!

1,000 Trillion Flies!

●

THIS is the heading of YOUR Association's advertisement which recently appeared in the DAIRY INDUSTRIES UNIT!

YOUR Association's Advertisement has been circulated to nearly 17,000 paid subscribing dairy products plants where the control of flies and insects is paramount.

YOUR association's advertisement says: "Spray regularly every day now with a good insecticide...."

If you have a "good insecticide" and if you are not now advertising in the DAIRY INDUSTRIES UNIT, contact us immediately and get a larger share of this good dairy industries business!

●

THE OLSEN PUBLISHING COMPANY

505 W. Cherry St.

Milwaukee 12, Wis.

the
ICE CREAM
REVIEW



the
MILK
DEALER



the
BUTTER and Cheese
Journal



HANDBOOK OF PEST CONTROL

The Behavior, Life History and Control
of Household Pests

By ARNOLD MALLIS

THIS new book is a thoroughly practical, complete and up-to-date study of pest control which will be invaluable to every insecticide manufacturer, pest control operator and entomologist. Approximately 570 pages in length, and containing 140 illustrations, it deals in a practical way with the behavior, life history and control of household pests.

While there have been other books in this field, Mr. Mallis' book is by far the most complete and up-to-the-minute practical text on the subject. It reflects insecticide developments as recent as those of the past few months, carrying for instance, the most recent findings on DDT, aerosol insecticides, insect repellents, etc. The emphasis throughout is on control measures, and the author covers fully all the commonly used insecticide materials and treatments. Fumigation is the subject of a special chapter.

An unusually complete list of references to the literature on household pests, insecticides and their use adds considerably to the value of Mr. Mallis' new book. Hundreds of references to the technical literature are listed.

TABLE OF CONTENTS

Chapter	Chapter	Chapter
1 Rats and Mice	10 Psocids	19 Fleas
2 Silverfish	11 Bedbugs and Other Bugs	20 Flies and Mosquitoes
3 Springtails	12 Clothes Moths	21 Spiders
4 Cockroaches	13 Hide and Carpet Beetles	22 Mites
5 Crickets	14 Ants	23 Ticks
6 Earwigs	15 Bees and Wasps	24 Miscellaneous Household Pests
7 Termites	16 Stored Product Pests	25 Chemicals Used in Controlling Household Pests
8 Dry Rot Fungi	17 Spider or Ptinid Beetles	26 Household Fumigation
9 Wood-boring, Book-boring and Related Beetles	18 Lice	

HANDBOOK OF PEST CONTROL has standard high-grade book binding, cloth and board covers, 6 x 9. Priced at \$6.25 per copy (\$6.50 outside the U. S.). Check *must accompany order*. Orders for books to be sent on approval *cannot be accepted*, but the usual return privilege will be accorded where copies are returned unmarred within 10 days. Owing to present conditions, the first edition must be limited. Accordingly, an *early order* accompanied by check is suggested.

Published By

MAC NAIR-DORLAND CO.

254 West 31st Street

New York, N. Y.

MacNair-Dorland Co.

Enclosed is check for \$6.25 (\$6.50 foreign). Send me a copy of the new "Hand Book of Pest Control."

Name

Firm

Address

Which of these Buying Factors do You Sell?

Superintendent? Dietitian? Housekeeper?
Directress of Nurses? Engineer?
Maintenance Supervisor? Purchasing Agent?
Pharmacist? Business Office Manager?
Operating Room Supervisor? Laundry Head?
Chef? Maternity Room Supervisor?

The chances are you sell one of them in one hospital and another in the next. For in spite of the fact that all hospitals have one thing in common, as havens for the sick and injured, their management practices vary as widely as is the case in any industry where you sell your products or services.

At Hospital "A" a given department head may have full authority to purchase expendable supplies but may not be empowered to buy equipment or fixtures. At Hospital "B" all purchases for the same department may be cleared through a purchasing agent. Hospital "C" may follow a completely different procedure where the superintendent buys upon recommendation by the department head.

Thus the department head may vary in importance from cases where he has full authority to others where he has none. And this degree of authority may vary greatly for one product as compared with another.

For this reason advertising plays a very important part in selling to the hospital market. Properly conceived and carried deeply into the complex administrative structures of hospitals, it

can sell those who influence as well as control buying. In a compact, concentrated market, where individual purchases are normally very large, such advertising can and does produce results greatly out of proportion to its cost.

HOSPITAL MANAGEMENT can take your story to all the people who influence purchases. Our balanced editorial program of "how to do it" articles and the outstanding news service of the field, produces readership which takes hospital people right to your story.

More than three-quarters of the hospitals where HOSPITAL MANAGEMENT is received route copies from one department head to another. And in articles, correspondence and display advertisements in each issue, we have urged even greater practice of this procedure so that our penetration into the market will be even greater.

Hundreds of advertisers have found this the ideal medium for increasing their sales in one of the greatest of markets. Ask for our circular giving the complete story about HOSPITAL MANAGEMENT, or better yet, have one of our representatives give you that story.

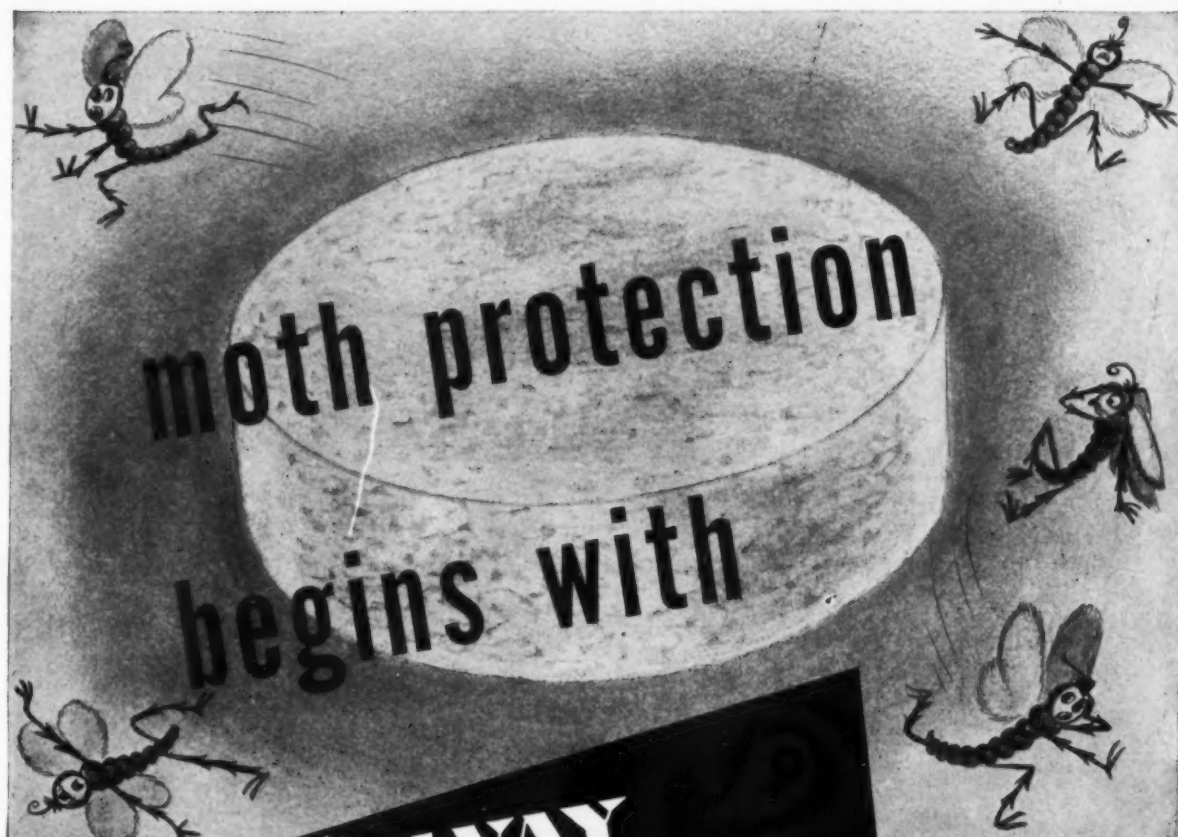


For Detailed
Reference Data
See
**THE MARKET
DATA BOOK**
Business
Publications
Edition

Hospital Management

The Only Hospital Publication which is a member of both the ABC and ABP.

100 E. OHIO STREET, CHICAGO 11



SOLVAY TRADE MARK REG. U. S. PAT. OFF. **PARA-DICHLOROBENZENE**

For effective Moth Protection and for use in the manufacture of deodorant blocks count on SOLVAY PARA-DICHLOROBENZENE. The superiority of these crystals—as produced by SOLVAY for pressing into blocks and repacking—has been established for years.

The 3 grades of SOLVAY PARA-DICHLOROBENZENE now offered are suitable for most normal customer needs. The effectiveness of these crystals has not been changed.

SOLVAY Technical Service can be extremely helpful in advising you on the best methods of adapting Nos. 1, 6, and 9 to fit your production needs. Your inquiries are invited.



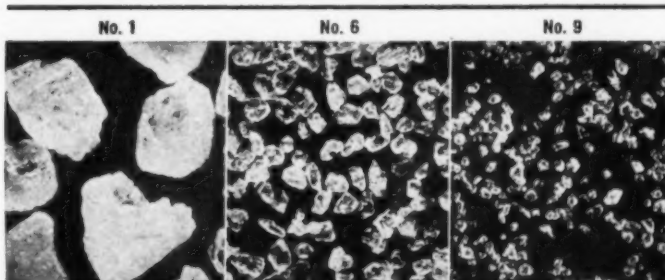
SOLVAY SALES CORPORATION

*Alkalies and Chemical Products Manufactured by
The Solvay Process Company*

40 RECTOR STREET NEW YORK 6, N. Y.

BRANCH SALES OFFICES:

Boston	Cincinnati	New Orleans	Pittsburgh
Charlotte	Cleveland	New York	St. Louis
Chicago	Detroit	Philadelphia	Syracuse



**GIVE YOUR
PRODUCT ROOM
TO GROW**

● INSTITUTIONS Magazine is the only publication through which you can reach all related divisions of the Institutional field. If your present or contemplated products have an application to this field, your advertising messages in the columns of INSTITUTIONS Magazine will gain for them the kind of acceptance they must have to share in the huge Institutional Market.

Your mass-housing and mass-feeding market is made up of the following institutions, which constitute the reader audience of INSTITUTIONS Magazine:

- Hotels
- Hospitals
- Schools
- Restaurants
- Industrial Canteens
- Colleges
- Public Institutions
- YMCA's and YWCA's
- Railway Systems
- Steamship Lines
- Public Buildings
- Other Institutions

and, for the duration of the war—in addition to its regular circulation, INSTITUTIONS Magazine is being sent to buyers and specifiers of mass-housing and mass-feeding products for those engaged in the war effort.

**THE Institutional Market
SPENDS
\$45,000,000*
ANNUALLY**

**for WAXES, DISINFECTANTS, SOAPS,
FLOOR FINISHES, CLEANING COMPOUNDS,
INSECTICIDES, SANITARY CHEMICALS**

★ The mass-housing, mass-feeding institutions of America are a mass market for waxes, disinfectants, soaps, floor finishes, cleaning compounds, insecticides and sanitary chemicals. The Institutional field is a concentrated market with each unit buying and consuming in volume . . . with all units spending over \$45,000,000 annually for these items alone. If your product has application to this field with its concentrated buying power, investigate the opportunities it offers for volume sales . . . Ask for a free copy of "Your Institutional Market." Write to INSTITUTIONS Magazine, 1900 Prairie Avenue, Chicago 16, Illinois.

The cover of INSTITUTIONS MAGAZINE features several headlines: "N. Y. Postwar Building Programs Outlined!", "Frozen Cooked Foods Seen as Profitable", "Design for Model Food Service Room Given", "How to Distinguish Between Fabrics", "PLACE POSTWAR ORDERS NOW!", "INSTITUTIONS HAVE RECONVERSION TASK TOO, SAYS ANDREWS", "War Food Head Says Surpluses Won't Be Great", "Design for Postwar Food Service", "IMMEDIATE ACTION CAN ASSURE FASTER V-E DAY DELIVERIES", and "Prior Rights to First Production Should Speed Rebuilding".

CONSULT YOUR ADVERTISING AGENCY

**PYRETHRUM
POWDER**

**PYRETHRUM
CONCENTRATES**

CUBE POWDER

**DDT
CONCENTRATES**

**PRENTISS
PRODUCTS
FOR YOUR 1946
INSECTICIDES**

**TECHNICAL GRADE
DDT**

P **R. J. PRENTISS & CO. INC** **P**
110 WILLIAM ST., NEW YORK 7, N.Y. 9 SO. CLINTON ST., CHICAGO 6, ILL.



How a Piece of STEEL and a Little TIN BANISH HANDLING HEADACHES

● Lift 'em ... tote 'em ... stack 'em! Cans make your insecticides easy to handle.

On busy retail shelves and counters, compact, fire-resistant steel-and-tin containers ... which are more than 98% steel, less than 2% tin ... can be easily and safely stored and effectively displayed. What's more, consumers prefer sturdy steel-and-tin cans because they are safe to handle ... stay neat and clean.

5 Reasons Why Better Packaging Plans Call for Insecticides Packed in Cans

1. Cans exclude light and air... preserve toxicity.
2. Cans don't break or chip.
3. Are fire-resistant.
4. Are economical to ship... require no special handling or packing.
5. Labels can be permanently lithographed on cans.

And by sealing out light, trouble-free cans preserve the toxicity of your insecticides.

From manufacturer to consumer, cans provide *economical* handling because they cut down loss due to breakage ... speed up automatic packaging operations ... require no special handling or packing to guard your insecticides against shipping hazards.

For all-round easy and safe handling of insecticides, plan now to use steel-and-tin cans ... when cans are again available for unlimited civilian use.

Preparing the Public To Demand Cans Again

Across America this month, more than 34,000,000 full-color, full-page ads are re-emphasizing to shoppers the advantages of using merchandise packed in cans. Watch for these ads in *Life*, *Look*, *American Home*, *McCall's*, *Good Housekeeping*, *Better Homes & Gardens*, *Woman's Day*, *Parents' Magazine* and in the magazine sections of 44 Sunday newspapers.



It's more than 98% steel,
less than 2% tin



CAN MANUFACTURERS INSTITUTE, INC., NEW YORK

NO OTHER CONTAINER PROTECTS LIKE THE CAN

Better than Soap!



GENTLE AS
A LAMB

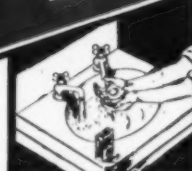
ANNITE

(REG. U. S. PAT. OFF.)

STRONG AS
A LION



*Effective in any water, hot or cold
wonderful in salt water*



Sorry, Folks!
ANNITE
Better Than Soap

*is selling faster than it can be
made right now. But soon
production will be increased!*

HOUSE OF MILO

SALES TO JOBBERS AND DISTRIBUTORS ONLY

P. O. BOX 1964

BIRMINGHAM, ALABAMA

QUALITY SPECIALTIES

made better with

SONNEBORN

Petroleum Products

Leading manufacturers of many chemical specialties have long standardized on SONNEBORN white oils, petrolatums and other petroleum products . . . convincing evidence of the unsurpassed Quality, Purity and Stability of these highly refined ingredients.

End-uses of some of the successful chemical specialties which are made better with SONNEBORN petroleum products are shown. There are many others.

The research facilities of the SONNEBORN laboratories, backed by 64 years of refining experience, are available for aid in current production problems and in the development of new products for postwar markets.

Write for
TECHNICAL DATA FILES
on uses that interest you.



HOUSEHOLD SPRAYS



CATTLE SPRAYS



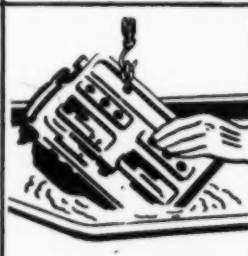
AGRICULTURAL SPRAYS



CORN EARWORM OILS



INSECT REPELLENT
CREAMS AND LOTIONS



DEGREASING EMULSIONS



CLEANING EMULSIONS



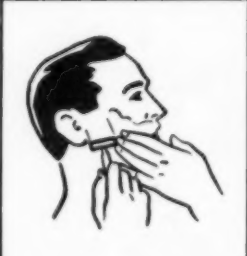
EMULSION POLISHES



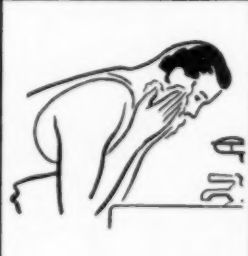
PROTECTIVE CREAMS
FOR INDUSTRY



ANIMAL REMEDIES



BRUSHLESS SHAVE CREAMS



SOAPS

SONNEBORN PRODUCTS FOR CHEMICAL SPECIALTIES

DEO-BASE

For Household, Cattle and Agricultural Sprays, Degreasing, Cleaning and Polishing Emulsions.

PETROMIX No. 9

For Degreasing, Cleaning and Polishing Emulsions.

TRI-OL

For Brushless Shave Creams, Soapless Oil Shampoos, and Skin Cleansers.

SULPHONATED OILS

For Animal Remedies and Protective Creams for Industry.

PETROBLEND

For Agricultural Sprays.

PETROLATUMS U. S. P.

For Insect Repellent Creams, Animal Remedies, Protective Creams for Industry.

WHITE MINERAL OILS

For Insect Repellent Lotions and Animal Remedies.

CARNATION for Protective Creams for Industry, Soaps and Brushless Shave Creams.

KLEAROL for Cattle Sprays and Emulsion Polishes.

PROTOL for Corn Earworm Oils.

SPRAY STOCK "A" for Agricultural Sprays.

WHITE OIL AND PETROLATUM DIVISION

Dept. Y 11

L. SONNEBORN SONS, INC.

88 Lexington Avenue, New York 16, N. Y.

Refineries: Petrolia and Franklin, Pa.

Branch Offices: Chicago, Baltimore, Philadelphia and Los Angeles

Stocks Carried in Principal Cities

In the Southwest: Sonneborn Bros., Dallas 1, Texas

Say you saw it in SOAP!

November, 1945



...then he grabbed the phone and called for



And (you guessed it) we were on the other end!

For Uncle Sam wanted help with some special packaging problems for his servicemen.

The result—Uncle Sam thought we had the right answers; got his problems solved.

That was back in 1941. Since then he's been putting problems up to us regularly. Which is what we like—and would like you to do.

Follow his lead!

Just reach for your phone and call for help—our help.

We'll respond with ideas that may give your product a head start on that tough competition ahead.

And it won't cost you a cent!

For we kept our eyes and ears open on our war job—and are anxious to give you the benefit of our experiences. Add this to our 44 years of research and engineering know-how—and you're really getting something.

Let's get together!

You want an efficient, economical, appealing container for your product—a container that will catch the consumer's eye—and dollar.

So why not make that call to our nearest representative now—or if you'd rather, drop us a line? Let's work out your problem together!

AMERICAN CAN COMPANY

230 PARK AVENUE  NEW YORK 17, N. Y.

World's Largest Manufacturers of Fibre and Metal Containers

Official Test Insecticide . . .

SUPPLIES of the 1945 Official Test Insecticide for evaluating insect sprays by the Official Peet-Grady Method are available from the office of this Association. The 1945 O.T.I. is official for testing from June 1, 1945 through May 31, 1946. O.T.I. of any previous year is obsolete and should not be used.

Supplies of 1945 O.T.I. are available at \$5.00 per dozen six-ounce bottles to members of this Association. To others, there is a service charge of \$1.00 per dozen. Single bottles are \$1.00 each. Check with order is required.



National Association of Insecticide & Disinfectant Manufacturers, Inc.

110 East 42nd Street

New York

OFFICERS

President H. A. NELSON, Chemical Supply Co., Cleveland
First Vice-President N. J. GOTHARD, Sinclair Refining Co., East Chicago, Ind.
Second Vice-President GORDON M. BAIRD, Baird & McGuire, Inc.,
Holbrook, Mass.
Treasurer JOHN POWELL, John Powell & Co., New York
Secretary H. W. HAMILTON, Koppers Co., White Tar Division,
Kearny, N. J.

BOARD OF GOVERNORS

J. L. BRENN	Huntington Laboratories, Huntington, Ind.	H. W. MOBURG	Rex Research, Inc., Toledo, O.
JOHN N. CURLETT	McCormick & Co., Baltimore	A. W. MORRISON	Socony-Vacuum Co., New York
MELVIN FULD	Fuld Bros., Baltimore	ARTHUR RASMUSSEN	Furst-McNess Co., Freeport, Ill.
JOHN A. MARCUSE	West Disinfecting Co., L. I. City	FRIAR THOMPSON	R. J. Prentiss & Co., New York
		R. H. YOUNG	Davies-Young Soap Co., Dayton, O.



Only the ~~mosquitoes~~, fish, ~~flies~~ bite here



ATLAS TWEEN 80

Atlas Tween 80 is a polyoxyalkylene derivative of hexitol anhydride partial long chain fatty acid esters. It is described, along with other Atlas Spans and Tweens, in this 20-page booklet, which is yours for the asking.

There is money waiting for the man who captures the market with an insect repellent that can also be used to impregnate sports wear. Wartime experience shows that it's possible.

Out in the Pacific, the same repellents that were used on exposed skins were made water-soluble, added to laundry rinse water and used to impregnate clothing. Our men in the armed services were thus protected against mosquitoes, chiggers, mites, ticks, flies, more completely than ever before.

Now the emulsifier that makes these repellents water-soluble is available for civilian use. Atlas Tween 80, mixed with the repellents, makes a concentrate that may be rubbed on exposed skin *and* added to water to impregnate clothing.

Think of the boon to fishermen, gardeners, golfers! Imagine the day when every man can "read under an oak tree" in comfort! There's a market awaiting someone now. The details have already been solved. We shall welcome inquiries regarding our product, Tween 80, and ways to use it.

Tween: Reg. U. S. Pat. Off.

ATLAS

INDUSTRIAL
CHEMICALS
DEPARTMENT



ATLAS POWDER COMPANY, Wilmington 99, Del. • Offices in principal cities • Cable Address—Atpowco

AQUADEE

LIQUID CONCENTRATED D D T WATER MISCIBLE!!!

- § AQUADEE No. 25 forms perfect milky emulsions in any concentration.
- § AQUADEE No. 25 emulsions are stable and do not separate on standing.
- § Fire hazard is completely eliminated.
- § Can be used with comparative safety on animals and livestock.
- § AQUADEE No. 25 emulsions are practically odorless.
- § AQUADEE No. 25 is sold in concentrated form — the ultimate consumer makes his own emulsions resulting in a great saving.
- § AQUADEE No. 25 emulsions are easily applied by spraying, painting, brushing, or dipping methods.

•••••

HOUSEHOLD USE: For painting screens, walls, floors, basements, closets, etc., mix 1 part of this Concentrate with 4 parts of water and paint the surface to be treated. A sprayer can be used but be sure to thoroughly wet the surface. This same solution can be sprayed into cracks and crevices to help control breeding of insects in their hiding places.

USE AQUADEE

As

CATTLE DIP — CATTLE SPRAY — FRUIT TREE SPRAY
RESIDUAL SPRAY — MOSQUITO LARVACIDE
AGAINST VEGETABLE INSECTS — ROACHES, BEDBUGS, ETC.
FOR A SAMPLE — WRITE

BAIRD & McGUIRE, Inc.
ST. LOUIS, MO. HOLBROOK, MASS.

SANITARY PRODUCTS

A SECTION OF SOAP

Official Publication National Association of Insecticide & Disinfectant Manufacturers

THE DDT picture remains confused. From a madhouse demand for DDT concentrates and finished products a month or so ago, last reports indicate that this demand has slowed down to a walk. Opinion indicates that the combined efforts of various self-appointed DDT publicists who "warned" the public against being gypped has had the effect of scaring the public away from DDT products about as fast as previous publicity made them rush in to buy. Adverse publicity has unquestionably helped to kill the market temporarily at least. Reports of retailers from various sections of the country indicate that the public has acquired a suspicion of all DDT products and that the retail sale has slowed markedly. That there might be a momentary saturation of the retail and consuming markets is a possibility,—likewise the end of the insect "season" is undoubtedly also a factor.

That the present situation is merely temporary and in no way reflects the long-range outlook in DDT or other residual type insecticide products is apparent. The momentary lull should give the industry an opportunity to contemplate the future in its true light and likewise give sanity a chance to return to insecticide marketing. Maybe those larger insecticide manufacturers who did not rush to market with DDT products may have been wiser than they were given credit for a month ago.



PERIODIC requests reach us for information as to the extent and character of the market for household insecticides. How big is the market? How do insecticide sales break down on a seasonal basis? What percentage of sales goes through the drug trade, grocery stores, hardware stores? What is the ratio of sales of powders to liquids? How much insecticide is packed in cans as against bottles? There are a thousand and one such ques-

tions coming to us regularly which we are unfortunately not in a position to answer; nor to our knowledge are the answers readily available from any other source. Is there any reason why a market study which would provide the answers to these questions might not be undertaken by the National Association of Insecticide and Disinfectant Manufacturers as a part of its future program of activities?



THE OPA has finally abandoned its price controls on carnauba and other vegetable waxes. Thus ends one more phase at least of the long and often unsuccessful attempts of this unhappy government agency to set aside the laws of supply and demand. Unfortunately for floor wax manufacturers and other users of carnauba wax, immediate relief in the way of early arrivals of wax to relieve the acute scarcity, cannot be anticipated. It will be several months before any substantial shipments of wax can be expected from Brazil, and a much longer period before the supply situation returns to anything even approaching a normal position.

It was never clear to us why it was necessary or advisable for OPA to meddle with the prices of obscure materials, which have no relation to the cost of living, and carnauba wax is certainly a case in point. It was even less clear why price control was stubbornly maintained on this material for such a long period, after it became obvious to everyone that the OPA controls had merely served to limit the importation of carnauba wax to a handful of companies who were in a fair way to build up a monopoly for themselves in the floor wax business. The stable door has now finally been locked, but we fear that the offenders are not going to be persuaded by OPA or anyone else to bring back the horse.

SOLVENTS FOR DDT*

By Howard A. Jones, Helen J. Fluno, and George T. McCollough**

Bureau of Entomology and Plant Quarantine, U. S. D. A.

WITH the rapid development of the use of DDT (1 - trichloro - 2,2 - bis (*p*-chlorophenyl)ethane) the interest in solvents for this insecticide has increased. In the course of work at the Orlando, Fla., laboratory of the Bureau of Entomology and Plant Quarantine on the insecticidal testing of DDT, the solubility of this compound has been determined in a large number of solvents. This study, begun late in the fall of 1942, has been concerned with solvents suitable for use in preparations for the control of insects affecting man. Many of these materials may also be found useful in various other phases of the application of DDT.

The DDT used in this study was prepared from a good grade of technical DDT by recrystallizing once from ethyl alcohol. It had a melting point of 107.5° to 108°C. (corr.). This does not represent an absolutely pure grade of DDT, but results obtained with it are considered to give a sufficiently close indication of the solubility of DDT for practical use.

Organic compounds tested as solvents were of a pure practical grade. No effort was made to purify them further. In addition to these individual substances, numerous commercial fractions and mixtures, some of them of unknown chemical composition, were also tried. The solvents, in general, were of a grade that would be likely to be used in the practical application of DDT.

All determinations were made in tightly stoppered test tubes kept in

Table 1.—Solubility of DDT in Various Solvents at 27° to 30° C.

Material	Determined by—		Solubility of DDT	
	Synthetic method	Refractive index method	Per 100 ml. of solvent	Per 100 grams of solvent
			Grams	Grams
Acetone	x	—	58	74
Acetonyl acetone	x	x	38	39
Acetophenone	x	x	67	65
Amyl acetate	x	x	39	44
alpha-n-Amyl cinnamaldehyde	x	—	27	28
Anisole	x	x	70	70
Benzene	x	—	78	89
Benzyl acetate	x	x	45	43
Benzyl alcohol	x	x	12	11
Benzyl benzoate	x	x	42	38
Benzyl ether	x	x	41	39
Bicyclohexyl	x	—	9	10
Butyl lactate	—	x	21	21
Butyl dl-malate	—	x	17	16
Butyl mesityl oxide oxalate (Indalone)	x	x	38	35
Butyl stearate	x	x	8	9
Carbon tetrachloride	x	x	45	28
p-Chloroacetophenone	x	x	39	33
Chlorobenzene	x	x	74	67
2-(2-Chloroethoxy) ethyl-2,4,5,6-tetrachlorophenyl ether	x	—	24	16
alpha-Chloronaphthalene	x	x	55	46
Cinnamaldehyde	x	x	25	22
Cumene	x	x	37	43
Cyclohexane	—	x	15	19
Cyclohexanol	x	x	10	11
Cyclohexanone	x	x	116	122
Cyclohexyl benzoate	x	x	46	44
2-Cyclohexylcyclohexanol	x	—	< 1	—
Cyclohexyl lactate	—	x	31	29
Cyclopentane carboxylic acid, methyl ester	x	x	30	32
p-Cymene	x	x	29	34
Diacetone alcohol	x	x	17	18
Diallyl hexahydrophthalate	—	x	33	30
Diallyl phthalate	x	x	27	24
N,N-Diamylacetamide	x	x	51	59
Dibutyl phthalate	x	x	33	32
Dibutyl sebacate	—	x	35	37
Dibutyl tartrate	—	x	19	18
N,N-Di-n-butyl-p-toluenesulfonamide	x	x	35	33
o-Dichlorobenzene	x	x	59	45
Diethyl carbonate	—	x	42	43
Diethylene glycol monobutyl ether (Butyl Carbitol)	x	x	34	36
Diethylene glycol monobutyl ether acetate (Butyl Carbitol acetate)	x	x	34	35
Diethylene glycol monoethyl ether (Carbitol)	x	—	12	12
Diethylene glycol monoethyl ether acetate (Carbitol acetate)	x	x	33	33
Dimethyl phthalate	x	x	34	29

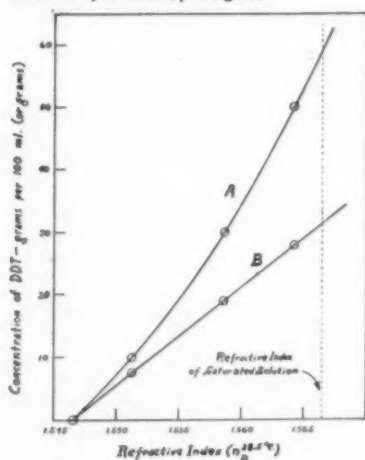
* This work was conducted under a transfer of funds, recommended by the Committee on Medical Research, from the Office of Scientific Research and Development to the Bureau of Entomology and Plant Quarantine.

** Sergeant, U. S. Army Air Forces.

a water bath at 27° to 30°C. Most of the observations were made between 28° and 29°. Two methods of determining solubility were used. The first was a simple synthetic method in which increments of solvent were added to a given weight of DDT, with an appreciable lapse of time and intermittent agitation between additions of solvents, until complete solution occurred. Visual examination of the sample was made for DDT crystals some time after each addition of solvent. An hour or more was usually allowed between additions of solvents, and a single determination usually required 24 to 48 hours.

In the second method, previously described for rotenone (Jones and Love, 3), solutions of several known concentrations in a given solvent were prepared, refractive indices determined at 28° to 29°C., and the values for concentration plotted against those for refractive index. Figure 1 illustrates this method of plotting. A saturated solution was then prepared, the refractive index determined, and from the graph just described the concentration corresponding to this refraction value was determined. In using this method with a few of the very viscous liquids, the equilibrium condition was approached from both directions, i.e., by warming the solvent with an excess of DDT at slightly above the bath temperature and allow-

Figure 1.—Concentration of DDT in solutions of *o*-dichlorobenzene in relation to refractive index when concentration is given (A) in grams of DDT per 100 ml. of solvent, and (B) in grams of DDT per 100 grams of solution (per cent by weight).



Material	Determined by—		Solubility of DDT	
	Synthetic method	Refractive index method	Per 100 ml. of solvent	Per 100 grams of solvent
	Individual Substances		Grams	Grams
1,4-Dioxane	x	x	92	89
Diphenylmethane	x	x	36	36
m-Diisopropylbenzene	—	x	19	22
Dipropylene glycol	x	—	5	5
Di-n-propyl homophthalate	—	x	35	32
beta-Ethoxyethyl chloroacetate	x	—	22 ¹	19 ¹
beta-Ethoxyethyl phthalate	x	—	16	15
Ethyl acetoacetate	x	x	24	23
Ethyl alcohol (95 per cent)	x	—	2 ¹	2 ¹
Ethyl benzoate	x	x	57	54
Ethyl cinnamate	x	x	41	39
Ethylene dichloride	x	x	59	47
Ethylene glycol diacetate	—	7	19	17
Ethylene glycol monobenzyl ether (Benzyl Cellosolve)	x	x	14	13
Ethylene glycol monoethyl ether (Cellosolve)	x	x	19	17
Ethylene glycol monoethyl ether acetate (Cellosolve acetate)	x	x	40	36
Ethylene glycol monophenyl ether (Phenyl Cellosolve)	x	—	10	9
Ethyl ether	x	—	28 ¹	39 ¹
2-Ethyl-1,3-hexanediol (Rutgers' 612)	x	—	1	2 ¹
Ethyl lactate	x	x	12	12
Ethyl oleate	—	x	17	20
Furfuryl alcohol	—	x	7	6
Hexahydroisothymol	x	x	6	7
Isophorone	x	x	74	80
Isopropyl alcohol	x	—	3 ¹	4 ¹
Isopropyl lactate	—	x	18	20
Lauric aldehyde	x	x	17	20
Mesityl oxide	—	x	65	76
p-Methoxybenzyl alcohol	x	x	9	8
Methyl isobutyl ketone	x	x	47	59
Methylene chloride	x	—	88 ¹	66 ¹
Methyl alpha-naphthylacetate	x	x	35	31
Methyl alpha-naphthyl ether	x	x	48	44
Methyl isopropylcyclohexyl acetate	—	x	42	45
beta-(3,4-Methylisopropyl)-phenoxy-beta'-chloroethyl ether	—	x	25	24
Methyl salicylate	x	x	40	34
Morpholine	x	x	75 ¹	75 ¹
Nitroethane	x	x	27	26
1-Nitropropane	x	x	34	34
2-Nitropropane	x	x	40	40
Oleic acid	x	—	8	9
2-Phenoxyethyl acetate	x	x	25	23
2-Phenylcyclohexanol	x	x	26	28
Phenyl ether	x	x	42	39
Propionic acid	x	x	16	16
Propylene glycol	x	—	< 1	—
Safrole	x	x	39	36
Tetrachloroethane (acetylene tetrachloride)	x	—	61	38
Tetrachloroethylene	x	x	38	23
Tetrahydrofurfuryl alcohol	x	x	17	16
Tetrahydronaphthalene	x	x	61	63
Triacetin	—	x	10	9
Tributyl citrate	x	x	25	24
Tributyl phosphate	x	x	50	51
1,2,4-Trichlorobenzene	—	x	44	28
Trichlorocumene	x	x	32	25
1-Trichloroethane	x	—	52 ¹	39 ¹
Trichloroethylene	x	x	64	44
Triethanolamine	x	—	< 1	—
Undecylenic acid	—	x	12	13
Undecylenaldehyde	x	—	20 ¹	24 ¹
gamma-Valerolactone	x	x	58	54
o-Xylene	—	x	57	66
Aliphatic Petroleum Fractions				
Gasoline	x	—	10	13
Gasoline (100 octane)	x	—	9	12
Stoddard solvent	x	x	9	12
Kerosene (regular run)	x	x	8-10 ¹	10-12
Fuel oil, No. 1	x	x	8-11 ¹	10-14

ing to cool, and by allowing an excess of DDT to stand in the solvent at the bath temperature. When the refractive indices of these two solutions were the same, the equilibrium condition was considered to have been reached.

Most of the solvents have been checked by both methods. With very volatile solvents or those in which change of concentration of DDT made very little change in refractive index, it was only possible to use the synthetic method. Some of the more recent results have been obtained by the refractive-index method only. Where both methods were used, results are believed to be accurate to within 3 to 4 per cent, but when only one method was used the accuracy is less than this.

Results obtained with the various groups of solvents tested are shown in table 1. Solubility is expressed in terms of both grams of DDT that will dissolve in 100 ml. of solvent and grams of DDT per 100 grams of solvent, as these are probably the two most useful values. The latter figure has been calculated from the former by use of the density value obtained from the literature, if available, or by actual determination. The value of grams per 100 grams of solvent is not the same as per cent by weight (grams per 100 grams of solution) used in figure 1.

Many other solvents have been examined by other workers, but only those in which determinations were actually made in this laboratory are included here. The values are believed to be reasonably close to those that would be obtained with highly purified DDT. For example, values obtained by Gunther (2) with acetone, benzene, carbon tetrachloride, dioxane, and ethyl ether, using very pure DDT, are in approximate agreement with results reported here.

AN examination of results obtained with the individual substances tested as solvents, certain generalities are apparent. Several ketones (acetophenone, cyclohexanone, methyl isobutyl ketone, isophorone, and mesityl oxide) have high solvent power for DDT. The aromatic hydrocarbons (benzene, xylene, etc.), the chlorinated

Material	Determined by—		Solubility of DDT	
	Synthetic method	Refractive index method	Per 100 ml. of solvent	Per 100 grams of solvent
Individual Substances				
Grams				Grams
Fuel oil, No. 2.....	x	x	7-10 ³	8-12
Lubricating oil, SAE 30.....	x	—	5	6
Diol 55 (high-boiling, aliphatic petroleum fraction of narrow distillation range).....	x	x	7	8
Kerosene (refined, fly-spray base).....	x	x	4 ¹	5
Transformer oil.....	x	—	4-6 ²	5-7
Aromatic Petroleum Fractions				
Amsco-solv D (about 65% aromatics).....	x	x	29	34
Amsco-solv E (about 65% aromatics).....	x	x	30	34
Amsco-solv F (about 76% aromatics).....	x	x	33	38
Solvesso No. 1 (aromatic naphtha).....	x	x	47	59
Solvesso No. 2 (aromatic naphtha).....	—	x	46	54
Solvesso No. 3 (aromatic fraction, medium boiling range).....	—	x	33	38
S/V Culicide Oil B or PD-428-G (chiefly methyl- and polymethyl-naphthalenes).....	x	—	48 ¹	47 ¹
PD-544-A (upper fraction of S/V Culicide Oil B).....	x	x	40	39
PD-544-B (middle fraction of S/V Culicide Oil B).....	x	x	45	46
PD-544-C, regular (lower fraction of S/V Culicide Oil B).....	x	x	34	38
PD-544-B, treated.....	x	x	41	42
PD-544-C, broad fraction.....	—	x	38	42
PD-544-C, special, new fraction.....	x	x	44	48
Special fraction of S/V Culicide Oil B (similar to PD-544-B).....	x	x	48	50
Solvent B-1819 (refined, high-boiling fraction of S/V Culicide Oil B).....	—	x	50 ¹	50 ¹
Sovasol 73 (aromatic naphtha).....	—	x	25	32
Sovasol 74 (aromatic naphtha).....	—	x	42	50
Sovasol 75 (aromatic fraction, medium boiling range).....	x	x	25	30
APS 202 (refined, high-boiling fraction of S/V Culicide Oil B).....	—	x	45	44
Velsicol AR-40, July 1944 (chiefly monomethylnaphthalene).....	x	x	48	51
Velsicol AR-40, monoethyl cut (chiefly monomethylnaphthalene).....	x	x	59	61
Velsicol AR-50 (chiefly mono- and dimethylnaphthalenes).....	—	x	55	56
Velsicol AR-60 (chiefly di- and trimethylnaphthalenes).....	x	x	57	58
Velsicol NR-70 (chiefly tetramethylnaphthalene).....	—	x	52	50
Coal-Tar Fractions				
Xylene, 10-degree.....	x	x	53	61
Solvent naphtha (industrial xylene).....	x	x	52	60
Refined S.H. Solvent (light oil distillate, similar to solvent naphtha).....	x	x	54	63
Hi-Flash solvent.....	x	x	48	55
Crude light solvent.....	x	x	58	66
Cumene fraction (chiefly pseudocumene).....	x	x	42	48
Heavy solvent.....	x	x	58	62
Wire enamel solvent.....	x	x	60	64
Special heavy solvent.....	x	x	55	59
Pale yellow Hi-Flash solvent.....	—	x	39	45
Special fraction (Hi-Flash type).....	x	x	32	37
K-327 (chiefly methylnaphthalenes).....	x	x	67	66
Neutral oil.....	—	x	67	66

Material	Determined by—		Solubility of DDT	
	Synthetic method	Refractive index method	Per 100 ml. of solvent	Per 100 grams of solvent
			Grams	Grams
Individual Substances				
Kolineum (refined coal-tar creosote)	—	x	58	53
Special hydrocarbon oil	—	x	53	53
Hydrocarbon oil	—	x	70	71
Cresylic acid	—	x	17	17
Pine-Distillation Products				
Pine oil (Yarmor 302)	x	—	10	11
Pine oil (Yarmor 302W)	x	—	16	17
Turpentine, spirits	x	x	17	20
Pinene No. 111 (chiefly alpha-pinene)	—	x	14	16
Solvenol No. 1 (terpene hydrocarbons, chiefly dipentene) ..	—	x	22	25
Dipentene No. 122 (terpene hydrocarbons, chiefly dipentene) ..	—	x	24	28
Terposol No. 3 (chiefly terpinyl methyl ethers)	x	x	21	23
Hercosol No. 80 (chiefly fenchone and camphor)	x	x	38	43
Hercolyn (chiefly hydrogenated methyl abietate)	—	x	21	20
Laksol (light distillate from pine wood)	x	x	62	72
DHS Activator (chiefly ethylene glycol ether of pinene)	x	x	17	17
Thanite (chiefly isobornyl thiocyanacetate)	x	—	29	27
Miscellaneous				
Alox 152 (methyl esters of oxidized petroleum products)....	x	—	9	10
Alox 800 (oxidized petroleum products)	x	x	18	19
Aroclor 1242 (chlorinated biphenyl)	x	x	48	35
Aroclor 1248 (chlorinated biphenyl)	x	—	30 ¹	21 ¹
Aroclor 1254 (chlorinated biphenyl)	x	—	12	8
Carbon Met (chlorinated coal-tar fraction)	x	x	49	51
Castor oil	x	x	7	7
Cottonseed oil	x	x	11	12
Dowtherm A (diphenyl oxide 74%, biphenyl 26%)	x	x	40	38
Dow Corning fluid, Type 200, vis. 500 cstks. (organic silicon polymer)	x	—	< 1	—
Dow Corning fluid, Type 500, vis. 5 cstks. (organic silicon polymer)	x	—	< 1	—
HB-40 (hydrogenated terphenyls) ..	x	x	24	24
Linseed oil, raw	x	x	11	12
Peanut oil	x	x	11	12
Phenol S (chiefly isopropyl cresols, byproduct from thymol) ..	x	—	7	7
Sesame oil	x	x	8	9
Triton B-1956 (polyglyceride of a glyptal resin)	x	x	9	9
Triton X-100 (polyethylene glycol alkyl aryl ether)	x	x	12	11
Tween-60 (sorbitan monostearate, polyoxyalkylene derivative)	x	x	14	13

¹ Approximate values only.

² Approximate value only; some evidence of either chemical change of DDT or solvate formation.

³ Range for samples from 2 sources.

⁴ 5 samples from 4 manufacturers ranged from 3.7 to 4.5.

⁵ Range for 4 samples.

aliphatics (methylene chloride, trichloroethylene, etc.), and the chlorinated aromatics (chlorobenzene, *o*-dichlorobenzene, etc.), are very good solvents. The solubility of DDT in some ethers (dioxane, anisole, etc.) is very high.

Several esters (ethyl benzoate, tributyl phosphate, etc.) and the one lactone tested (gamma-valerolactone, are good or moderately good solvents.

The aliphatic petroleum fractions are comparatively poor solvents

of DDT. They will be widely used, however, because of their ready availability in many areas. Petroleum fractions such as crude kerosene and fuel oil are variable in composition, and a range of solubility values may be expected with different samples. Values for these oils may appear high to those who have worked with DDT in the field. These figures, however, represent the limiting value for the saturated condition, or the true solubility, and are only obtainable in the field, when large amounts of material are used, after a day or more of agitation at the temperature specified. With any of the solvents listed the amount of DDT used in practice should be well below the value given in order to insure ready solution in the field. For example, solutions containing 5 grams of DDT per 100 ml. are considered practical in the average samples of fuel oil and kerosene. It will be noted that the solubility of DDT in refined kerosene is less than 5 grams per 100 ml., so that auxiliary solvents must be used to obtain solutions of this concentration.

Aromatic petroleum fractions generally dissolve rather large proportions of DDT. The composition of these and other commercial fractions listed in table 1 may vary or be changed from time to time; therefore, the solubility of DDT may not be exactly the same as in the samples tested. Many of these aromatic petroleum fractions are being employed or have good possibilities as auxiliary solvents.

DDT is generally very soluble in aromatic fractions obtained from coal tar. Cresylic acid, however, does not dissolve a large proportion of DDT.

The pine-distillation products listed in table 1 may be useful in some DDT preparations. The solubility in "Laksol", a low-boiling distillate, is very high. The value for "Hercosol No. 80," consisting primarily of fenchone and camphor, is fairly high. The other products are only moderately good solvents.

Of the miscellaneous products listed in table 1, only "Aroclor 1242," a chlorinated biphenyl, dissolves a large proportion of DDT. The vegetable oils tested exhibit about the same order of solubility as the aliphatic petroleum

SHELL REGULAR BASE

**Refined to meet the needs
of modern household
insecticide manufacturers**



SHELL OIL COMPANY, INC.

**50 WEST 50TH STREET
NEW YORK 20, N. Y.**

products. The value of "Dowtherm A," a eutectic mixture of diphenyl ether and biphenyl, is moderately high.

For the information of those who may be required to select solvents for use in DDT preparations, table 2 gives the physical properties and the solubility in pounds per gallon of solvent for some materials that may be useful. These materials were selected primarily with a view to their usefulness in solutions and emulsions for the control of mosquitos, flies, and other insects affecting man. They may be useful alone as DDT solvents or as auxiliary solvents to be used in conjunction with kerosene, fuel oil, or other poor solvents for DDT. In listing these materials some consideration was given not only to solubility for DDT, but to availability, cost, flash point, and possible toxicity to man. Chlorinated solvents, such as chlorobenzene, *o*-dichlorobenzene, and trichloroethylene, may be too toxic to use in confined spaces, but they are included for comparative purposes. The toxicology of many of these materials is not known, and each should be checked before actual use, particularly under indoor conditions. According to Fleck and Haller (1) catalytic decomposition of DDT with ferric chloride occurs in some solvents containing chlorine or nitro groups, particularly in *o*-dichlorobenzene.

For situations in which a moderately volatile solvent similar to kerosene is desired, such as in a residual-type spray for control of adult insects, such solvents as tetrahydronaphthalene, "Solvesso No. 3," "PD-544-C," "Velsicol AR-50," or heavy solvent may be useful. Xylene has been found to be a good solvent for preparing DDT emulsions for use as a mosquito larvicide and as a residual spray. If a solvent with higher flash point is desired in such an emulsion, the solvents just mentioned or "Velsicol AR-40" or "Hi-Flash" solvent may be found satisfactory. For applications in which heavier oils are permissible, "S/V Culicide Oil B" and "Velsicol NR-70" may be used. For indoor space sprays for adult mosquitoes and flies, especially concentrated, finely atomized sprays, "PD-544-B" (treated) or "APS-202"

Table 2.—Physical Properties¹ of Some Useful Solvents for DDT

Material	Density Lb. per gal.	Boiling point or range °C	Flash point °F	Solubility of DDT Lb. per gal. of solvent
Chlorobenzene	9.2	132	88	6.2
Cyclohexanone	7.9	157	122	9.7
<i>o</i> -Dichlorobenzene	10.9	180	167	5.0
Isophorone	7.7	215	205	6.2
Mesityl oxide	7.1	128	90	5.4
Methyl isobutyl ketone	6.7	116	75	3.9
2-Nitropropane	8.3	120	103 ²	3.3
Tetrahydronaphthalene	8.1	207	180	5.1
Trichloroethylene	12.2	88	—	5.3
Amsco-solv F	7.3	177-213	135	2.8
Solvesso No. 1	6.7	93-135	<80	3.9
Solvesso No. 2	7.1	—	80	3.8
Solvesso No. 3	7.3	173-210	155	2.8
S/V Culicide Oil B or PD-428-G	8.6	195-over 350	280	4.0
PD-544-A	8.6	304-404	335	3.3
PD-544-B	8.2	262-338	270	3.8
PD-544-C, regular	7.4	200-277	190	2.8
PD-544-C, special, new fraction	7.7	200-277	175 ²	3.7
PD-544-B, treated	8.2	—	280	3.4
Sovasol 74	7.0	136-182	87 ²	3.5
APS 202	8.5	288-377	260	3.8
Velsicol AR-40, July 1944	7.8	—	157	4.0
Velsicol AR-40, mono-methyl cut	8.1	220-243	215	4.9
Velsicol AR-50	8.1	236-269	230	4.6
Velsicol AR-60	8.2	240-290	245	4.8
Velsicol NR-70	8.7	258-357	300	4.3
Xylene, 10-degree	7.2	135-145	80	4.4
Solvent naphtha (industrial xylene)	7.2	130-155	90	4.3
Hi-Flash solvent	7.3	150-200	114	4.0
Crude light solvent	7.3	135-180	80	4.8
Cumene fraction	7.3	165.5-175.5	131	3.5
Heavy solvent	7.8	160-270	136	4.6
Pale yellow Hi-Flash solvent	7.2	155-200	—	3.3
K-327	8.4	230-270	236	5.6
Neutral oil	8.4	—	184	5.6
Kolineum	9.1	—	240	4.8
Special hydrocarbon oil	8.4	—	170	4.4
Hydrocarbon oil	8.3	190-300	217	5.8
Laksol	7.2	87-169.5	<80	5.2

¹ All boiling ranges and some values for density and flash point are approximate and were taken from the literature. All flash points are in Cleveland open cup, unless otherwise noted.

² Tagliabue open cup.

³ Tagliabue closed cup.

may be useful in conjunction with crude or refined kerosene. Cyclohexanone and isophorone are good auxiliary solvents and have been used in much experimental work, although both are more expensive than most of the aromatic petroleum and coal-tar fractions listed. A number of other aromatic petroleum and coal-tar fractions are available, and some have been mentioned as good DDT solvents in preliminary reports by other workers, but since they have not been tested in this laboratory they are not included here.

Since DDT is not readily soluble in aliphatic petroleum oils, auxiliary solvents may be used to reduce the time required for preparing the solution, even when a concentration of only 5 grams per 100 ml. is

required. To prepare solutions in petroleum oils containing higher concentrations of DDT, an auxiliary solvent must be used. For example, to obtain a solution containing 10 grams of DDT per 100 ml. it is advisable to use 20 parts of one of the auxiliary solvents listed to 80 parts of petroleum oil. If cyclohexanone is used, only about half this proportion is required.

Physical properties and solubility are not the only factors to be considered in the selection of a solvent for DDT. For use as a residual spray deposit, the possible repellent effect and the loss of effectiveness of DDT due to the solvent must be considered. Some solvents may also interfere with the effectiveness of DDT in solutions or

(Turn to Page 155)

MASK THE ODOR OF DDT
WITH "D-THANE-S-ENCES"
(OUR NEW BABY)



D-Thane-S-Ences, the result of painstaking research and testing, achieve a triumph in completely masking objectionable odors. They not only provide thorough coverage of ingredients ordinarily a problem to disguise, but add a pleasant, hardly-perceptible perfume to all sprays. D-Thane-S-Ences retain their own identity even after application.

Non-volatile—does not change toxicity.

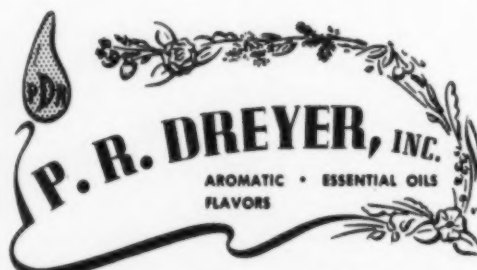
Economical to use—only 4 ounces covers a 55 gallon drum.

AVAILABLE—in a variety of odors . . . floral, fruity, spicy, oriental and many others for application in any atmosphere.

WRITE FOR PRICES AND WORKING SAMPLES

BOSTON
CHICAGO
CINCINNATI
DETROIT
PITTSBURGH
LOS ANGELES
PHILADELPHIA

HAROLD H. BLOOMFIELD
WM. H. SCHUTTE CO.
WM. G. SCHMITHORST
L. H. CARLSON
B. OSTROFF
ALBERT ALBEK, Inc.
R. PELTZ CO.



119 WEST 19th STREET • NEW YORK 11, N. Y.

THOMPSON-HAYWARD CHEMICAL COMPANY
KANSAS CITY
AND CITIES THROUGHOUT MIDDLEWEST
MEXICO CITY
EMILIO PAGUAGA
PRINCIPAL CITIES IN SOUTH AMERICA

INSECTICIDE TOXICITY STUDIES

Experimental Results on the Comparative Toxicity of Benzene Hexachloride, DDT and Pyrethrum

By W. A. Gersdorff and E. R. McGowan

Bureau of Entomology and Plant Quarantine, U. S. D. A.

EXPERIMENTS have shown that benzene hexachloride (called 666 in Great Britain) is very toxic to insects (Slade¹). It seems desirable to find the relative toxicity of this material, DDT and pyrethrum to houseflies.

Materials

To avoid the uncertainty introduced by crude materials, especially by mixtures, only pure samples of certain isomers of the synthetic compounds were used—the gamma isomer of benzene hexachloride (1,2,3,4,5,6-hexachlorocyclohexane)² and the para, para' isomer of DDT (1-trichloro-2,2-bis(*p*-chlorophenyl)ethane).³

The pyrethrum standard was prepared from a purified concentrate and, since recent indications are that such a concentrate may slowly lose toxicity, chemical analysis³ of the pyrethrins content was made at the time of testing. In this concentrate 55 per cent of the total pyrethrins was pyrethrin I.

Refined kerosene was the solvent used in all the sprays.

Procedure

The tests were made by the turntable method on adult houseflies, (*Musca domestica* L.), reared by standard procedure.

Preliminary tests were made to ascertain the concentrations of each material that would give a wide range of mortalities. Knockdown and mortality percentages were then determined on 10 replicates of these sprays

¹ Slade, Roland. A Potent New Insecticide. Vet. Record (London) Vol. 57, No. 11, p. 128.

² Sample supplied by A. King of the British Commonwealth Scientific Office, Washington, D. C.

³ Furnished by the Division of Insecticide Investigations of this Bureau.

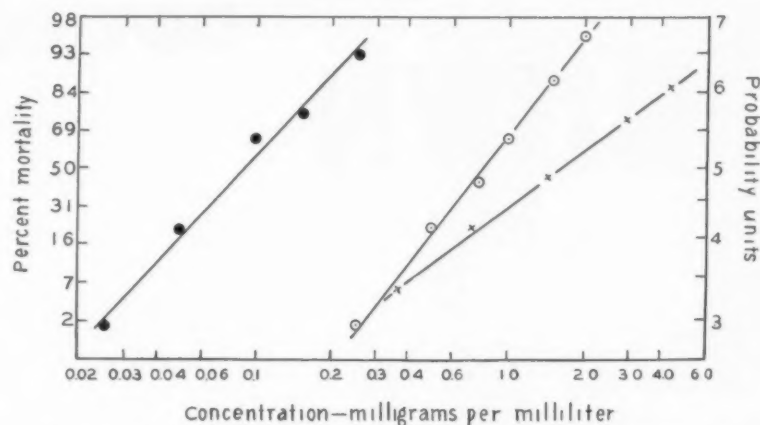


Fig. 1. Toxicity to houseflies of gamma-benzene hexachloride, *p,p'*-DDT, and pyrethrins. ● — benzene hexachloride ○ — DDT; × — pyrethrins.

with approximately 150 flies in each test.

Results

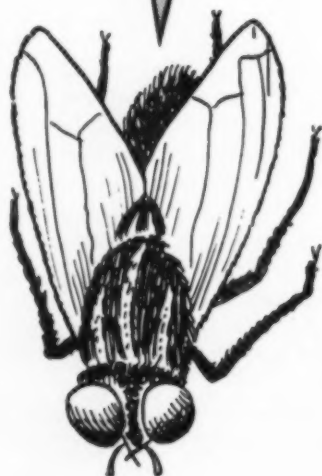
The toxicity data are summarized in table 1. The mortality figures are based on 1-day counts.

To show the course of toxic action for each material, and to illustrate the method of estimating graphically the concentrations giving 50 per cent mortality, the mean mortalities are plotted on log-probability paper in (Turn to Page 121)

TABLE 1
Comparison of the toxicity to adult houseflies of gamma benzene hexachloride, *p,p'*-DDT, and pyrethrins in kerosene sprays.

Compound	Concentration	Knock-down in 25 minutes	Mean mortality after 1 day	Mean concentration giving 50% mortality	Ratio of toxicity to pyrethrins at 50% mortality level
	Mg. per ml.	Percent	Percent	Mg. per ml.	
Benzene hexachloride	0.25	44	94	0.0888 ± 0.0056	18.1 ± 1.6
	.15	21	78		
	.10	10	66		
	.05	3	21		
	.025	1	2		
DDT	2.0	40	96	.788 ± .050	2.04 ± .18
	1.5	23	88		
	1.0	13	66		
	.75	8	44		
	.50	3	22		
	.25	1	2		
Pyrethrins	4.40	100	86	1.61 ± .10	1.00
	2.94	100	75		
	1.47	100	46		
	.73	100	22		
	.37	100	6		

FOR KNOCK DOWN



AMERICA IS 100% DDT CONSCIOUS

Every housewife, farmer, butcher, baker and candlestick maker has an opinion on DDT. Reports are good.

DDT is a slow-acting insecticide—effective against many insects when properly applied.

Therefore as practical usage develops it becomes clear that Pure Pyrethrum Extract is required for the dramatic spectacular knock-down!

THE ANSWER IS PYREFUME
OUR CLEAR AND POTENT PYRETHRUM EXTRACT
COMBINED WITH OUR DDT 30% SOLUTION

We also have
DDT WETTABLE POWDER and 10% ROACH POWDER and EMULSIONS

All Available for Prompt Shipment

S. B. PENICK & COMPANY

50 Church St., New York 7, N. Y.
735 W. Division St., Chicago 10, Ill.

Telephone: COrtlandt 7-1970
Telephone: MOHawk 5651

Antioxidants For Pyrethrum Powders*

By R. C. Bushland**, Milton S. Schechter,
Howard A. Jones, and E. P. Knipling

Bureau of Entomology and Plant Quarantine, U. S. D. A.

IN the development of a louse powder for use by the armed forces (1) it was found that preparations containing pyrethrum were highly effective. Ordinary pyrethrum powder (the ground pyrethrum flowers of commerce) is not particularly effective against the body louse (*Pediculus humanus corporis* Deg.), even though it contains about 1 per cent of total pyrethrins. However, when a pyrethrum concentrate or extract is deposited on a diluent such as pyrophyllite to give a dust containing 1 per cent of total pyrethrins, the resulting powder becomes an excellent insecticide against lice.

Because of the rapid deterioration of the pyrethrins in such a powder, owing to greatly increased surface exposed to the air, however, it is necessary to incorporate an antioxidant† if the powder is to have reasonably good keeping qualities. A number of known antioxidants (2, 3, 4) were therefore tested. Since pyrethrum is not ovicidal to louse eggs, an ovicide, 2,4-dinitroanisole, was also incorporated in the pyrethrum louse powder (1) and a synergist for pyrethrum, isobutylundecylamide was added to decrease the concentration of the pyrethrins to 0.2 per cent and to prolong their effectiveness. The use of DDT in the louse powder now being employed by the armed forces (5) made the need for further investigation along these lines

less important. The results are being published, however, because of the possible application of this type of pyrethrum dust to the control of other insects.

In the first series of tests, dusts were prepared containing 1 per cent of pyrethrins (using a 20-per cent pyrethrum extract) and 3.3 per cent of antioxidant with pyrophyllite as a carrier. This high concentration of antioxidant was used to eliminate ineffective or undesirable materials quickly and definitely. These powders were spread thinly on paper and exposed in the laboratory at room temperature for 340 days. At various intervals during this period samples of the aged powders were diluted with an equal weight of pyrophyllite and tested against the body louse by the arm-and-leg method described by Bushland *et al* (1).

The inner surface of a sleeve made of heavy-weight underwear cloth was uniformly covered with three grams of powder, the dust being rubbed lightly into the fabric. Treated

sleeves were placed on the arms and legs of research subjects, and 25 young adult lice were introduced into each sleeve. The garments were then fastened to the skin with adhesive tape to prevent the insects from escaping. Untreated sleeves and sleeves treated with freshly prepared pyrethrum powder, without an antioxidant, were used as checks. Examinations were made after 24 hours. In untreated sleeves about 80 per cent of the insects introduced were counted at the 24-hour examination; thus survival above 70 per cent indicates completely ineffective treatments. The results of these tests are shown in table 1.

When tested alone at 2 per cent strength, all the antioxidants except alphanaphthylamine were found to have little or no toxicity to lice. Since alphanaphthylamine allowed only 8 per cent survival, its value as an antioxidant is not proved by the data in table 1.

The tests made after 11 and 23 days' exposure were in duplicate (25

TABLE 1
Effectiveness of various antioxidants in retarding deterioration of pyrethrum dusts as indicated by 24-hour survival of lice in arm-and-leg tests.

Antioxidant	Survival of lice in sleeves treated with dusts exposed				
	11 days	23 days	45 days	79 days	340 days
	Percent	Percent	Percent	Percent	Percent
Benzidine	10	14	12	26	54
o-Cresol	0	0	0	33	94
Eugenol	0	2	3	16	66
Hydroquinone	0	0	10	2	16*
alpha-Naphthol	0	2	1	6	44
beta-Naphthol	12	42	44	28	100
alpha-Naphthylamine	6	2	0	9	10
Phenol S	0	4	1	3	92
p-Phenylphenol	2	6	10	38	46
Pyrogallol	8	4	8	0	42
None (check)	8	0	71	57	70
None (freshly prepared for each test)	0	2	7	1	0

* Surviving lice not of normal vigor.

* This work was conducted under a transfer of funds, recommended by the Committee on Medical Research, from the Office of Scientific Research and Development to the Bureau of Entomology and Plant Quarantine.

** Now captain, Sanitary Corps, Army of the United States.

† The term "antioxidant" in this paper is used in a broad sense to include materials having antipolymerization properties, since it is likely that polymerization is one of the chief causes of deterioration of the pyrethrins (See West, T. F., *Nature* 152: 660-661, 1943; also private communication from F. B. LaForge). Since certain antioxidants, for example, hydroquinone, are also good anti-polymerization agents, both oxidation and polymerization of the pyrethrins may be inhibited by antioxidants.

New Rohm & Haas Insecticide Concentrates

Based on RHOTHANE D3 and DDT

Now Added to Time-Tested Line

Recently we announced RHOTHANE D3, outstanding new insecticidal agent, which offers the phenomenal killing power of DDT plus *greater safety*.

Now in addition to the chemical products, RHOTHANE D3 and DDT, we offer these new materials in several forms. They are available in solvent solutions, in dust concentrates and in wettable powders.

Our scope of usefulness to the insecticide industry and to agriculture is still further broadened by the addition of these new insecticide concentrates to our line.

Concentrates based on RHOTHANE D3	Concentrates based on DDT
<p>Rhothane S-125: 25% Rhothane D3 in a petroleum solvent.</p> <p>Rhothane AD-50: Micronized dust concentrate containing 50% Rhothane D3.</p> <p>Rhothane WP-50: Micronized wettable powder containing 50% Rhothane D3.</p>	<p>25% DDT Solution: 25% DDT in petroleum solvent.</p> <p>D-50 Dust: Micronized dust concentrate containing 50% DDT.</p> <p>D-50 Wettable Powder: Micronized wettable powder containing 50% DDT.</p>

Write or wire today for testing samples and detailed information.

LETHANE and RHOTHANE are trademarks, Reg. U. S. Pat. Off.

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Manufacturers of Chemicals including Synthetic Insecticides . . . Fungicides . . . Plastics . . . Enzymes . . . Chemicals for the Leather, Textile and other Industries



TABLE 2
Survival of body lice in sleeves treated with year-old powders containing various antioxidants and diluents.

Antioxidant	Diluent	Survival Percent
Hydroquinone	Pyrophyllite	3*
	Talc	15
	Kaolin	12
Tannic acid	Pyrophyllite	17*
	Talc	58
	Kaolin	70
<i>p</i> -Hydroxybenzoic acid	Pyrophyllite	39
	Talc	59
	Kaolin	54
Maleic acid	Pyrophyllite	70
	Talc	72
	Kaolin	80
alpha-Terpineol	Pyrophyllite	42
None (check)	Pyrophyllite	70
	Talc	72
	Kaolin	62

* Surviving lice not of normal vigor.

lice per garment). Those conducted after 45 and 79 days' exposure, when there was evidence of deterioration, were made in quadruplicate. There was only sufficient material left for duplicate tests to conclude the experiment at the end of 340 days. The data obtained after 45 and 79 days' exposure best indicate the value of the antioxidants. The difference over the survival range of 42 to 66 per cent, obtained after 340 days, cannot be considered significant.

Hydroquinone, which gave consistently good results throughout this series of tests, is known to be an excellent antioxidant and antipolymerization agent for many chemical uses. Phenol S (isopropyl cresols, byproduct of thymol manufacture) prevented any detectable deterioration for 79 days. After a year's exposure, however, the dust had lost its toxicity.

Although hydroquinone was the best antioxidant tested, it caused a definite skin reaction and hence was not used in the recommended louse powder. Phenol S was selected as the antioxidant for the louse-powder formulas, as it was a good antioxidant and the powder containing it passed toxicological tests. Pyrogallol, alpha-naphthol, and eugenol were probably superior to benzidine and *p*-phenylphenol.

In a second series of tests powders were prepared containing 0.5 per

cent of antioxidant and 1 per cent of pyrethrins in three diluents. These powders, spread thinly on paper, were exposed in the laboratory for one year, and were then tested without further dilution by the arm-and-leg method. Quadruplicate tests were made with hydroquinone, tannic acid, and *p*-hydroxybenzoic acid, and duplicate tests with the other antioxidants and the check treatments. The results of these tests are shown in table 2.

The powders containing hydroquinone were most toxic to lice. Pyrophyllite dusts appeared to be more effective than talc or kaolin.

Literature Cited

- (1) Bushland, R. C., L. C. McAlister, Jr., G. W. Eddy, H. A. Jones, and E. F. Knipling. 1944. Development of a powder treatment for the control of lice attacking man. *Jour. Parasitol.* 30: 377-387.
- (2) Trusler, R. B. 1940. Prolonging toxicity of pyrethrum insect sprays. *Soap and Sanit. Chem.* 16(1): 115, 117, 119.
- (3) Faloan, D. B. 1939. Oxidation inhibitor for insecticides. U. S. Patents 2,144,366-2,144,369, issued Jan. 17.
- (4) Stafford, Allen and Sons Ltd., and T. F. West. 1942. Insecticidal preparations. *Brit. Patent* 547,927, issued Sept. 17. (Abstract in *Chem. Abs.* 37: 6400. 1943.)
- (5) Bushland, R. C., L. C. McAlister, Jr., G. W. Eddy, and H. A. Jones. 1944. DDT for the control of human lice. *Jour. Econ. Ent.* 37: 126-127.

INSECTICIDE TOXICITY

(From Page 117)

figure 1, and straight lines fitted to the points by the method of least squares. However, the mean concentrations, given with their standard errors in table 1, were determined from the straight lines fitted by the same method to the daily results obtained for the three materials and plotted on similar paper. The standard errors were obtained from an analysis of variance of the logarithms of the concentrations giving 50 per cent mortality. The standard errors of concentrations were then determined from those of logarithms.

The flies knocked down with benzene hexachloride and DDT were unable to fly, but many of them could crawl. The flies knocked down by the pyrethrins were immobilized.

Conclusions

The data in table 1 or in the graph (fig. 1) show that, at the 50-per cent mortality level, *p,p'*-DDT was about twice as toxic, and gamma benzene hexachloride about 18 times as toxic, as the standard pyrethrins when tested in deodorized kerosene sprays against houseflies by the turntable method.

Because the rates of increase of toxic action with increase in concentration differ, the ratio of the concentrations of the three toxicants required to cause equal mortality is different at different mortality levels. This difference is relatively small in the comparison of benzene hexachloride with DDT. Thus, gamma benzene hexachloride was 9 to 11 times as toxic as *p,p'*-DDT at the 10-per cent mortality level, 8 to 10 times at the 50-per cent level, and 7 to 9 times at the 90-per cent level. In comparison with the pyrethrins, the variation of relative toxicity of benzene hexachloride and DDT with different mortality levels is somewhat greater.

The knock-downs after 25 minutes were similar at comparable mortality levels for *p,p'*-DDT and gamma benzene hexachloride, both of which were much less effective than the pyrethrins in knock-down value.

THE GREAT DAY IS COMING SOON

When

WASHBURN

Presents

THE NEW AND COMPLETE LINE OF FLOOR FINISHING AND MAINTENANCE MATERIALS

For three years scientific research has been conducted in Washburn Laboratories — For three years practical tests have been run on floors subjected to heavy traffic. This assures you of perfect finishes which will reflect a world of new beauty and endurance on all kinds of floors.

All new developments will be announced in Soap Magazine as soon as critical materials are released by W.P.B. So please read our page monthly— We can also serve you better if you are on our mailing list now. Write to

T. F. WASHBURN CO.

2244 ELSTON AVE.

CHICAGO 14, ILL.

Manufacturers of Floor Finishes For 59 Years

ADULTERATION *and* MISBRANDING

By
C. C. McDonnell

Concluding a Series of Three Articles on This Subject

A Review of Some of the Common Mistakes Made By Manufacturers of Insecticides and Sanitary Products in Labeling their Products in Violation of Provisions of the Insecticide Act of 1910

THE Insecticide Act of 1910 does not contain the word "disinfectant" or "bacteria" and there is some question whether the framers of this law had in mind that it should include within its scope the control of products for use against disease organisms. When the act was being formulated manufacturers of disinfectants were not represented at any of the hearings nor was there any reference to disinfectants in the discussions when the act was before the Congress. The view that disinfectants were not covered by the act was held by some disinfectant manufacturers, and was the basis of their defense in several subsequent cases involving misbranding under the act.

The act defines "fungicide" as "any substance or mixture of substances intended to be used for preventing, destroying, repelling or mitigating any and all fungi that may infest vegetation or be present in any environment whatsoever."

The term "or be present in any environment whatsoever" is of course very broad and it all hinged on the meaning of the word "fungi." Under the scientific classification of the plant kingdom, fungi are placed in the lowest division, and bacteria as a subdivision, consisting of the unicellular fungi.

The three Secretaries, in making rules and regulations, as provided by the law, for carrying out its provisions, after consulting scientific authorities, adopted a definition for "fungi" which included bacteria as well as the higher fungi. The Federal courts have upheld this position.

A number of serious diseases of plants, as well as of animals, are caused by bacteria and if preparations for combating them were not included within the law's provisions, the purpose which it was primarily designed to accomplish—the protection of those engaged in the production of food crops and other agricultural pursuits against the use of adulterated or misbranded materials—would be largely defeated.

Industry itself recognized that the labeling of disinfectants was in a deplorable state at that time and that some form of regulatory control was urgent. After the formation of the Insecticide and Disinfectant Manufacturers Association* much of the time of its early meetings was devoted to the discussion of disinfectant problems and the necessity for putting the disinfectant industry on a higher plane. The president of the association, at one of these early meetings, admitted that

* Now the National Association of Insecticide and Disinfectant Manufacturers, Incorporated.

there were many fakes in the disinfectant business, that any one with a stick and a barrel and a few ingredients thought he could make a disinfectant. He proposed that the Association's slogan be "Get together, thrash out our problems, share our knowledge and pull together for the common good." The work of that association has borne fruit and has done much to bring about a general improvement in the standard of these products on the market.

The marketing of ineffective disinfectants is not only a cheat, but a health hazard. Unlike insecticides, which are directed against tangible pests and the results of their use more or less obvious, the user of disinfectants pursues the invisible. Except in cases of known contamination, the benefit of disinfection is uncertain. It relies upon faith and expectance, and falls into the category of "insurance." This imposes a great responsibility on the manufacturer in seeing that labels are informative and scrupulously truthful.

Types of Misbranding

MISBRANDING of disinfectants and germicides has been widespread in the past and has embraced a diversity of forms. This condition has not been confined to individuals or small firms but has included some of

a Battle in the **SPRAY!**

Which will attain supremacy in an insecticide spray — the killer odor or the perfume that masks it? "Neither" is the answer when our experts get in their fine work. These men have mastered the tricky problem. We anticipate offering you the successful results of their efforts.



VAN AMERINGEN-HAEBLER INC.

315 FOURTH AVENUE • NEW YORK 10, N. Y.

the largest and most prominent drug and chemical companies in the country.

Weird and fantastic claims have been made for products that have been sold under the guise of disinfectants. These include naphthalene compressed in the form of small tablets, represented to disinfect and bearing the claim "In case of epidemic take a tablet in your vest pocket and smell it every five minutes during the day;" paradichlorobenzene in crystal and tablet forms labeled "an effective treatment for influenza, grippe, catarrh, hayfever, asthma, colds and other diseases of the breathing organs. Suspend in the flush tank, insures healthy homes and a safeguard against infectious diseases;" sawdust mixed with salt and mineral oil to be used when sweeping to "disinfect the floor;" cedar shavings to be strewn about the household to "prevent and destroy germ life."

Many disinfectants possessing real merit if properly used have been marketed bearing unwarranted and sometimes ridiculous claims, such as "Put a few drops in the toilet bowl and you will have no more disease . . . to prevent hog cholera, use in the drinking water, one part to 200 . . . Sprinkle it over the hogs and hang up saturated clothes to the windward so that they will inhale the fumes . . . In contagious diseases saturate a towel in the solution and swing violently about the room and hang near the sick bed . . . For typhoid fever and malaria keep in open saucers in every room in the house . . . For yellow fever sponge the patient with the fluid, diluted with water, and give internally."

A product consisting largely of sodium fluoride was labeled "Non-poisonous. A powerful weapon to combat and overcome tuberculosis, typhoid fever. Beds and cribs occupied by children treated with it will protect the children against disease."

Adulteration has also been prevalent. One of its worst forms has been the addition of mineral oil to pine oil and coal tar disinfectants. This practice was frequent a number of years ago and has not entirely ceased. The only purpose of the addition of mineral oil to these products is to

lower the cost of manufacture. In the enforcement of the Insecticide Act by the Department of Agriculture many seizures were made and criminal action cases were brought against manufacturers of such adulterated products. These disinfectants have also been adulterated quite frequently with water, particularly during the war period when the basic ingredients were scarce.

Labeling

THE Federal Insecticide Act does not require much on the label of products subject to it. The only requirement with reference to performance is that prohibiting any statement, design, or device regarding the article or any of its ingredients which is "false or misleading in any particular." Misbranding may result under this provision by saying little or by saying much.

A product bearing only the claim "germicide," without directions for use, assumes for itself the enviable distinction of being a universal germicide. Likewise, a product professing to be a "germicide" but bearing directions only as a deodorizer and cleanser automatically declares itself to have germicidal action for all professed uses. The product which may be effective against many types of communicable disease germs but not against infectious germs such as the staphylococcus, may be used by the unsuspecting buyer with unhappy consequences, if it fails to bear proper directions for use. Incomplete labeling can give more false impressions than overstatement.

To avoid infringement of the Insecticide Act, as well as for the guidance of the user, it is necessary for the manufacturer of disinfectants to augment the claims for his product with proper directions for its use. The possible situations in which disinfectants may be used to advantage are legion, and admittedly complete directions and instructions for the average consumer in their proper use are impossible on a label where space is limited. Yet the manufacturer should not offer his product without sufficient knowledge of its properties to label it adequately, giving the types of uses for

which it is best suited and how it should be used.

The extremes of resistance and the unlimited kinds of environment of the germs which it is desirable to eliminate, impose a burden both on the manufacturer in the labeling of germicides and on the regulatory official. It is a problem that involves common sense and good judgment as well as scientific knowledge.

A simple illustration is the word "germicide" itself. The entire purpose of a germicide is to kill germs and the literal meaning of "germicide" is "germ killer,—a substance that kills and destroys germs." Yet a product labeled as a germicide may not legally claim that it "kills germs" or "destroys germs." This apparent inconsistency, nevertheless, is backed by sound reason. In their spore form some infectious germs are unaffected by chemical germicides as they are ordinarily used,—consequently to kill all germs with a disinfectant is impractical. "Germicide" has assumed a limited and definite meaning, namely, "a substance which will destroy all germs in the vegetative state."

The terms "kills germs" can be literally interpreted in either of two ways, "It is capable of killing some germs" or "It will kill all germs." If the product is capable of killing some germs only, it is of little value, since the purchaser is, in most cases, wholly unfamiliar with what types of germs it is desirable to destroy or what types the product will destroy.

A frequently encountered hazard of labeling disinfectants is the attempt, generally well intended, to explain "phenol coefficient." The phenol coefficient is in reality a semitechnical rating, and a statement that a product which has a certain phenol coefficient is so many times as strong as phenol is generally a misstatement. There is no objection to stating that a product is so many times as strong as phenol when tested by the F.D.A. phenol coefficient method (if it is of a type to which this method is applicable), but even this may give the purchaser a misleading impression of the practical value of the product.

ANOPHELES — one of the family of mosquitoes that transmits malaria, yellow fever and other diseases. DDT has proved highly effective in the control of malaria, typhus, yellow fever and dysentery.



BAKER'S DDT

(Dichloro-diphenyl-trichloroethane)

FOR CIVILIAN AND VETERINARY FORMULATIONS

Manufacturers of animal and household pesticides and mosquito larvacides—here is good news!

DDT (Dichloro-diphenyl-trichloroethane)—highly-publicized organic chemical—is now available for the formulation of civilian and veterinary products.

Formulation can be made in varying strengths and compounds for dusts and sprays, according to the specific problem. Whatever the formulation, whether

for veterinarian or civilian field, it will pay you to get in touch with the J. T. Baker Chemical Co.

Baker's DDT is a fine crystalline powder, approaching a white color, with a minimum setting point of 89° C. It is available in 25, 50, 100 and 200-pound containers.

Write for prices and tell us your requirements. Address J. T. Baker Chemical Co., *Executive Offices*, Phillipsburg, N. J.



Baker's Chemicals

C. P. ANALYZED • FINE • INDUSTRIAL



It is impossible to go into all of the possible types of extravagant misbranding, but one or two examples that are of frequent occurrence, due to the neglect of simple details of adequate directions, may be cited. For example, a label is incomplete if it does not indicate that the disinfectant must come in contact with the entire surface to be disinfected in order to be effective. A statement such as "An excellent disinfectant for the farm; use regularly in stables, hog pens, chicken houses, and following outbreaks of disease, at a dilution of 1 oz. to 1 quart of water," might well be misleading to those uninformed in the use of disinfectants, unless further directions to "remove debris, litter, dirt and apply thoroughly to all exposed surfaces" were added. Efforts aimed at the eradication of disease from contaminated premises must be thorough in order to be effective.

Disinfectants suitable for dishes and glassware are frequently not allowed to remain on them, or the recommended dilution may be too weak. A label that is too brief to indicate a safe and proper exposure time is inadequate. Also a claim that a product will clean and disinfect in one operation is generally not justified.

The words "sterilize" and "sterilization" have been much overworked. Products have frequently been recommended for surgeons' use to "sterilize the hands and instruments." There is no known chemical that is entirely satisfactory for sterilizing delicate surgical instruments in short periods of time, and dependence on such preparations may result in dangerous infections. Such types of misbranding are frequent.

The disinfectant manufacturer does not occupy an enviable position. With the advances being made in this field the labeling problem becomes more exacting all the time. Disinfectants are usually associated with disease and unhealthy conditions. They have no fundamental appeal and are difficult types of products to advertise. However, the necessity for household and industrial sanitation is being recognized more and more every day. The

importance of proper and efficient sanitary measures has been brought home forcibly to millions of our service men

and women and the future demand for disinfectants will undoubtedly be greater than in the past.

Rotenone Analysis

The Rotenone Content of Samples of Derris, Lonchocarpus and Tephrosia from Central and South America, the Belgian Congo, and Tahiti

By R. H. Carter, S. B. Soloway, H. D. Mann, Nathan Green

Bureau of Entomology and Plant Quarantine, U. S. D. A.

SINCE January, 1943, many samples of rotenone-bearing plants have been submitted to the Bureau of Entomology and Plant Quarantine for chemical analysis. Most of these samples were collected by the Foreign Economic Administration or the Office of Foreign Agricultural Relations of the U. S. Department of Agriculture. It is believed that a summary of the results of these analyses will be of interest to importers and manufacturers of rotenone insecticides.

The name of the material, the country of origin, and the maximum and minimum amounts of rotenone and total chloroform extracts found in these samples are given in Table 1.

The great variability in rotenone content of these samples makes it difficult to state that the product of any one country is superior to that of

others. It appears, however, that the Belgian Congo and several of the tropical American countries can supply roots equal in rotenone content to those formerly imported from Singapore, the Netherland East India and the Philippine Islands.

An amide is prepared by treating a diallylamine with undecylenic acid. This amide is more than twice as toxic as any other amide described in the literature, when used in mineral oil fly sprays with or without pyrethrum. It may also be used in water emulsions as a plant insecticide or absorbed on suitable materials for use as a dust or delousing agent. The amides are relatively nontoxic to warm blooded animals, and leave no stain when used in fly sprays. R. W. Evans and P. H. Williams, to Shell Development Corp. U. S. Patent No. 2,379,233.

Table 1—Rotenone and total chloroform extract found in rotenone-bearing plants

Plant	Country	Samples Number	Rotenone		Total Extract	
			Maximum %	Minimum %	Maximum %	Minimum %
Barbasco (Lonchocarpus)	Bolivia	2	0.15	..	0.7	..
	Colombia	81	7.6	0.0	19.5	0.3
	Ecuador	8	9.9	.3	17.0	2.6
	Guadaloupe	1	10.5	..	23.7	..
	Peru	1	5.0	..	15.7	..
Derris	Venezuela	21	5.5	.9	10.5	5.8
	Belgian Congo	15	9.1	0.0	23.3	1.1
	Guatemala	19	6.0	1.5	22.8	4.8
	Tahiti	1	4.9	..	13.4	..
Tephrosia	Colombia	12	0.9	0.2	4.8	1.8
	Venezuela	1	.5	..	1.6	..
Timbo (Lonchocarpus)	Brazil	11	12.1	0.3	25.5	5.7

Tops for floor maintenance



10 IMPORTANT *Plus Values* AT NO ADDITIONAL COST



Some of these features of FRANKLIN'S RUBBER GLOSS WAX are to be found in other waxes of course, although in many cases at a premium price.

ANTI-SLIP—Officially listed by Underwriters' Laboratories, Inc. as an anti-slip floor treatment material. **WATER RESISTANT**—Damp mopping doesn't flush away the protective film. Accidental spillage doesn't cause ugly white spots. **LONGER WEAR**—The Rubber Gloss film of protection is a balanced film, with self healing qualities that insure maximum durability. **HIGH GLOSS**—A rich looking gloss without

streaking. **STANDS FREEZING**—This wax is weather-proof. Heat and cold do not destroy its efficiency. **WAREHOUSES**—at strategic points all across the country—for better service. **EXPERTS**—Factory trained men available for consultation without charge or obligation. **CONTROL**—Uniform quality assured by continual laboratory control. **ACCEPTANCE**—with this nationally accepted *anti-slip* wax you also enjoy an important legal advantage. **FOR CLEANING**—a companion cleaner for use before waxing, and for general maintenance.

FRANKLIN'S WAX POLISH FOR FURNITURE produces a glistening wax finish that lasts up to 30 times longer . . . that doesn't attract lint or dust, or show finger prints. Easy to use, too—no hard rubbing needed.



A FULL LINE OF MAINTENANCE MATERIALS

FRANKLIN RESEARCH CO.

5134 LANCASTER AVENUE, PHILADELPHIA 31, PA.

TECHNICAL

Briefs

From Current Literature in the Sanitary Products Field

Advise on DDT Toxicity Hazard

Latest views of the U. S. Department of Agriculture on the possible toxicity hazards in connection with use of DDT insecticides are contained in a letter from P. N. Annand, chief of the U.S.D.A. Bureau of Entomology and Plant Quarantine, to the Agricultural Insecticide and Fungicide Association, which has been released for publication by L. S. Hitchner, executive secretary of the AIFA. Mr. Annand points out that the Bureau of Entomology and Plant Quarantine is not the agency to give technical data on toxicity, but bases its position on a statement by Dr. H. O. Calvery of the Food and Drug Administration and Dr. Paul A. Neal of the National Institute of Health, which follows:

"The extensive animal experimentation and investigative agricultural uses indicate quite clearly, we believe, that DDT is a deleterious substance. On the other hand, the use of DDT by the armed forces as well as the above experimental work on animals has shown that DDT insecticide can be used safely when properly labeled and handled with adequate precaution. DDT is not a caustic poison, a primary irritant and probably not a sensitizing agent. For example, it is not dangerous like carbolic acid, thallium, strychnine, bichloride of mercury, aniline, methyl bromide, cyanides, fluorides, arsenic trioxide, caustic acids and alkalies, etc. This group of chemicals are so dangerous that they must be handled with extreme care and the labeling must be so distinguishing as to thoroughly warn the handler and user. If substances like DDT are classed with these and the individual learns that he can submit to considerable exposure without eye irritation, skin irritation or any subjective signs of harm, he instinctively but unconsciously begins to disregard such warning labels and the hazard to health is vastly increased. Therefore, it is our opinion that DDT does not belong in the class of compounds usually labeled "Poison" with the skull and crossbones. DDT does, however, warrant the

exercise of caution in its handling and use. As a result we as toxicologists feel that such caution statements as are recommended by the Insecticide Division are appropriate."

Experience of the Bureau, says Mr. Annand, leads them to support fully the above conclusions and to endorse the caution statements included in the trade notices issued by the Insecticide Division, Livestock Branch, Production and Marketing Administration on September 1. (See *Soap & Sanitary Chemicals*, Sept., 1945.) Their experience also supports the conclusion that such cautions are adequate and that a more positive poison label would not be required on DDT insecticides. The above comments, it is emphasized by Mr. Annand, are based on the experiences that the Bureau has had with the technical and aerosol grades of DDT. They have had only comparatively little experience with insecticides containing DDT of standards of purity below that of the technical grade. It would seem, important therefore, that labels in reference to DDT insecticides should specify the grade of the product from which they are made.

Limerock as Insecticide Carrier

Finely ground Florida limerock can be used as an insecticide carrier or diluent dust, according to a report recently issued and based on work at the University of Florida and Industrial Experiment Station. Tests made with this new dust and DDT have shown that the limerock is completely inert toward DDT, the report states. The DDT is not decomposed by the limerock even when they are heated together in the presence of water vapor

at 100°C. for several days, it was pointed out. There are said to be large deposits of this soft variety of limerock in Florida. The finely ground limerock is air-floated to eliminate grit and coarse particles from the finished product. Samples of the insecticide diluent for use with DDT and other insecticides are obtainable from the University of Florida Engineering and Industrial Experiment Station, Gainesville, Fla.

DDT Residual vs. Space Sprays

In an attempt to clear up some of the confusion that has arisen in connection with the use of DDT in two specific types of insecticides ("residual" as differentiated from "space" sprays), the Agricultural Research Administration of the U.S.D.A. issued the following bulletin on the subject last month (October 8):

"The use of the chemical DDT in oil solutions or emulsions for control of household insects has attracted a great deal of attention, but there has been considerable confusion regarding the preparation and application of such insecticides. The Department's Bureau of Entomology and Plant Quarantine points out that its research indicates that the greatest benefit from the use of DDT in a spray for the control of household insects is obtained when it is applied as a residual spray. This means that the lasting properties of the chemical DDT are more fully utilized through application of sprays to walls and other surfaces that are visited by insects. The residues formed by evaporation of the sprays are left for killing insects that come into contact with the treated surfaces.

"While the DDT residues are not so rapid in their action as other toxicants commonly used in household sprays, its persistence makes it superior for use against many insects. The best type of residual deposit is left when the insecticidal spray contains approximately 5 per cent of technical DDT. In this concentration there is more even distribution of the residue on the treated surface and the killing action lasts longer. The essential point is to leave an adequate deposit of DDT crystals on the treated surface. This is best accomplished by applying about one quart of 5-per cent solution to 250 square feet, which insures a more even distribution of an effective residue for a variety of surfaces. On smooth finished surfaces it may be desirable to apply somewhat less if there is a tendency for the material to run.

"The chemical DDT may be added to the usual type of household sprays containing other toxicants such as pyrethrum, rotenone, or thiocyanates, and applied in the air as a fog or space spray, in contrast to the residual spray which is directed against a sur-

KOPPERS

Available now

these chemical raw materials
for the soap, insecticide
and disinfectant industries



Grades:

MELTING POINTS OF 39°C AND 40°C
90% AND 82% PHENOLS



Grades:

U. S. P. CRESOL
META PARA CRESOL
85% ORTHO CRESOL
PURE ORTHO CRESOL



ALL GRADES OF COAL TAR ORIGIN;
TAR ACID CONTENT NOT LESS THAN 99%



10%—80% TAR ACID CONTENT
AS SPECIFIED

KOPPERS COMPANY, INC. Tar and Chemical Division
PITTSBURGH 19, PA.



MELTING POINTS:
74°—76°—78°—AND REFINED

face. The space spray accomplishes a rapid knock-down of the insects but it is not satisfactory for producing effective persistent residues.

"The Bureau of Entomology and Plant Quarantine is not advising that DDT be used to prepare a combination 'space' and 'residual spray.'"

"It is well known that such toxicants as pyrethrum, rotenone, and thio-cyanates have a quick knock-down effect on insects, and they have been in use extensively and effectively as 'space sprays' for many years. Their killing properties but not the 'knock-down' may be improved by adding small amounts of DDT. Detailed experimentation has not been conducted to establish the specific amounts of DDT that can be most effectively used in such combinations. The addition of small amounts of DDT, approximately 1 per cent, will improve these sprays by increasing the total killing effect through preventing the revival of insects knocked down by other toxicants.

"Neither 'residual' nor 'space sprays' made of DDT in oils should be applied to animals, food, food containers, or to places where unprotected food may be stored. If standard household insecticidal hydrocarbon oils are used as carriers or solvents for either residual or space sprays, the surfaces of walls, floors, or furniture usually will not be injured by their use. Solvent sprays containing DDT may be safely used with normal precautions. The operator should avoid breathing mists, particularly when concentrations of 5 per cent DDT are used. He should also thoroughly wash the parts of the body that come into contact with the solution. As with all oil solutions one should not expose the spray mists to open flames or heated surfaces because of the fire hazard.

"Practically all experimental work conducted with DDT and the insecticide containing DDT has been done with the technical grade of the chemical. The armed forces have required this grade of the chemical for all insecticides, except aerosols, that they used to control pests. Conclusions from investigations to determine the toxic effects that DDT and DDT insecticides may have on man and animals have been interpreted in terms of this grade of purity of the chemical. The Bureau points out that in view of these facts it is important to use this grade of the chemical in DDT household insecticidal sprays, as well as to know the per cent of DDT in them."

Cites DDT Labeling Muddle

H. W. Baldwin of Baldwin Laboratories, insecticide manufacturers of Saegertown, Pa., calls for uniformity in state and federal controls on the packaging and labeling of DDT insecticides in a letter addressed to the editor of *Soap and Sanitary Chemicals*, pointing out that unless some such uniformity is achieved the insecticide manufacturer will be up against a terrific problem in packaging and sell-

ing his product on a national basis.

Mr. Baldwin says in part:

With the advent of DDT as a toxic agent in insecticides, many states are setting up directives which conflict with other states on labeling, with the result that a firm packing an insecticide containing DDT and doing a national business, will of necessity have from 15 to 20 different type of labels.

As an example, the state of California is not asking that skull and cross bones be placed on the label of insecticide if it contains less than 1 per cent DDT, while the state of Minnesota demands skull and cross bones on an insecticide that contains DDT in any concentration. The states of Minnesota and New Hampshire practically demand that the full formula be disclosed upon the label, while Pennsylvania only asks that the formula be declared in the application for license.

In short, we are facing a most chaotic condition, and further with some of the publicity that has been given DDT, especially dealing with its toxicity, the whole industry is thrown wide open to suits for alleged damages by unscrupulous people who may take the opportunity to bring suit against packers of insecticides containing DDT, claiming they have been injured or otherwise harmed by its use.

Ask Laws on DDT Use in Texas

Contending that release of DDT to the public without proper instruction as to its use has created a dangerous situation, Texas State Agriculture Commissioner J. E. McDonald has urged (Oct. 11) the enactment of state legislation to protect the public from fraudulent and dangerous preparations. After a statewide survey by his department, Mr. McDonald asserted that many insecticide containing DDT now being marketed are either ineffective or dangerous, in that the public has no way of knowing the ingredients.

He estimated that 80 per cent of the DDT preparations being distributed in Texas do not come under the jurisdiction of any state agency. Household and poultry insecticides account for this 80 per cent. They are exempt from provisions of state livestock and agricultural regulations.

"Very little is really known about DDT," Mr. McDonald said, "other than information given out by the Army, and one must realize that its use by trained and experienced crews is quite different from its use by an untrained and inexperienced public. "Definitely DDT is a great insecticide,

and in the course of time will take its proper place among the other tried and proven insecticides, but it is not a cure-all and its reactions are different from those now in common use, so that the results obtained from its use will be disappointing in many cases."

Mr. McDonald declared there have been many harmful results with its use on livestock, not always from DDT itself, but from its combination with other ingredients, from lack of proper labeling, or from careless following of meagre information.

USDA Advises on Aerosols

In a mailing sent out by the U. S. Department of Agriculture last month, potential marketers and users of aerosol insecticides were given a number of pertinent facts about this important new wartime development. The production of insecticidal aerosols is covered by patents assigned to the Secretary of Agriculture, and licenses are being issued to approved parties, provided they agree to produce aerosols according to standards set up by the department. The release, issued over the signature of Dr. P. N. Anand, chief of the U.S.D.A. Bureau of Entomology & Plant Quarantine, reads in part as follows:

Among a number of standard formulas that have been approved by the Department are those containing 3 per cent DDT and a suitable amount of purified pyrethrum extract, which were adopted by the armed forces during the latter part of the war for killing different kinds of insects, especially flies and mosquitoes. The same formulas are now used by most of the manufacturers operating under Department licenses and aerosol dispensers of the same efficiency are being sold to the public. This per cent of DDT mixed with pyrethrum extract insures an effective insecticidal aerosol.

Aerosol insecticides are most valuable for killing household insects such as flies, sandflies, mosquitos, and moths, when they are in the flying state. The small particles of insecticide, when forced into the air in all parts of the room, float for some time and as they come in contact with the flying insects are effective in killing them. Closing the rooms for several minutes after application adds to the efficacy of the treatment.

Aerosols are not very effective against crawling insects such as cockroaches, bedbugs and brown dog ticks, as these are resistant to insecticides so applied. Also, the aerosols do not act like fumigants and penetrates all of the places where such pests hide. The use of aerosols is not recommended as a satisfactory method for con-

DU PONT-PREPARED DDT INSECTICIDES

"DEENOL" is the name you'll find on dependable Du Pont formulations for commercial and industrial uses

Now DDT—in five ready-prepared Du Pont formulations—is ready for safe, reliable control of insect pests in dozens of commercial and industrial applications. Packaged under the name "DEENOL," each of these formulations is designed for greatest effectiveness, ease of handling, and safety . . . *in a particular class of uses*. All of them solve pest problems in factories, canneries, dairies, commercial and public buildings, ships and the like.

When it's properly formulated—then used in the right way on the right jobs—DDT is a remarkable weapon against pests. In "DEENOL," Du Pont offers *dependable* formulations.

The chart below highlights the five present formulations of "DEENOL." For detailed "DEENOL" bulletin, write: E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Department, Wilmington 98, Delaware.

DEENOL-50-F	DEENOL-25-EM	DEENOL-5-H	DEENOL-25-C	DEENOL-10-A
Wettable powder; mix with water, use as spray. DDT—50%	Emulsifiable oil; dilute with water, use as spray. DDT—25%	Ready-to-use oil spray. DDT—5%	Concentrated oil; dilute with a solvent, use as spray. DDT—25%	Ready-to-use dusting powder. DDT—10%
Effective against: Flies, ants, gnats, mosquitoes, fleas, ticks, wasps, cockroaches, carpet beetles, moths, silverfish, bedbugs, weevils, cadelle, and other stored product insects.				Designed especially for crawling insects such as cockroaches, ants, bedbugs, ticks, silverfish, lice.
For use on surfaces where: (1) Wetting by water is not objectionable; (2) Visible residue is not objectionable.	For use on surfaces where: (1) Wetting by water is not objectionable; (2) Visible residue is objectionable.	For use on surfaces where: (1) Wetting by water is objectionable; (2) Visible residue is objectionable.	Designed for large users who may wish to prepare their own spray mixtures by adding solvents.	Use on floors and baseboards, in cracks and crevices of woodwork, dark places behind pipes and other places insects infest.



DEENOL

TRADE MARK

BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

DDT
INSECTICIDES FOR
INDUSTRIAL USES

trolling these crawling insects or for killing the egg or larval stages of clothes moths, carpet beetles, and meal moths. The latter are protected by the materials or products they infest and sufficient quantities of the insecticide do not come in contact with them. Other methods of control are more effective and economical for these purposes.

Aerosols are not recommended as a means of applying insecticidal residues on surfaces for killing insects such as cockroaches, bedbugs, and ants, that may later come in contact with them. The fine particles are not well suited for this purpose.

Extensive experiments with standard insecticidal aerosols and their wide use by the armed forces have shown them to present no health or fire hazard when used as directed. The possibility of throat irritation or the occurrence of allergic reactions can be reduced by closing rooms and remaining out of them for 15-20 minutes after aerosol application. When used in sufficient quantities to kill free-flying insects, the aerosol is not poisonous or especially objectionable to man or most pet animals, even though they remain continuously in treated rooms. It is advisable to remove canaries and goldfish from rooms during treatment, as repeated applications might be injurious to them. It should be remembered that the contents of the standard 1-pound aerosol dispenser are sufficient to treat 150,000 to 250,000 cubic feet.

Issue Pest Control DDT Report

The results of the DDT study of the Cooperative Research Committee of the National Pest Control Association, Brooklyn, are contained in the Third Progress Report, issued recently by the Association. Based on this report, the following opinions and general conclusions were listed:

1. DDT Liquid shows no greater tendency to stain articles so treated than other Liquid insecticides used with prevailing methods.
2. DDT Powder requires an added paralyzant so that a quicker knock-down of crawling insects, such as roaches, may be had and thus avoid embarrassment to the consumer.
3. DDT Liquid or Powder when used repetitively, give results superior to prevailing methods for the control of roaches.
4. DDT Concentrate (25 per cent in a primary solvent) does not seem to offer much outlet in the pest control field, except in isolated instances, such as the control of the Brown Banded Roach.
5. The particle size of the DDT Powder supplied by the Bureau, appears to be satisfactory in all respects.
6. Because DDT is water insoluble, the problem of removing the whitish DDT Powder—pyrophyl-

lite mixture from dark colored floors is difficult. Perhaps some coloration of the product will be made which will give it a much more satisfactory tint, such as dark grey or brown.

7. DDT will have an extremely wide usage and acceptance in the pest control field.
8. DDT needs knock-down and know-how!

Test Proves DDT Value

According to a recent report of the Fish and Wildlife Service of the U. S. Department of Agriculture, the value of DDT in controlling flies on a city-wide basis has been proved. At one test site, Crisfield, Md., a Chesapeake Bay fishing port, 75 per cent of the fly population is reported to have disappeared following a single intensive campaign, the Service states. A month after the spraying, no noticeable increase in the number of flies was evident. Aimed primarily at improving the sanitation of fishing establishments, the spraying was done on a selective basis, rather than by blanketing the area with DDT sprayed from airplanes. In the fishery establishments DDT was sprayed in a solution so that a residue was left on the walls and ceilings. This, coupled with careful screening, has kept the establishments almost entirely free of flies since, it was stated.

Snell Booklet Describes Services

Foster D. Snell, Inc., Brooklyn consulting chemists and engineers, recently announced issuance of an eight-page and cover folder which describes their engineering services. The newly issued booklet supplements an earlier booklet, "The Consulting Chemist and

Residual Toxicity of DDT

Temperature and humidity conditions have been demonstrated to have a marked effect upon the residual toxicity of DDT—the particular property on which this much publicized insecticide depends for one of its most striking points of superiority. We will report the results of a study of the influence of these factors on residual kill of DDT in an article by Harvey L. Sweetman, Massachusetts State College, in our next issue.

Your Business," which outlines the services the organization is prepared to offer clients.

Peterman's Stand on DDT

DDT will not replace any of its three established insecticides, but, in some cases, will fortify them, it was announced by William Peterman Laboratories, New York, in a publicity release dated Oct. 12. The Peterman concern will furnish its: Peterman's "Discovery," "Roach Killer" and "Ant Killer" fortified with DDT to stores nationally, but, at the same time the three insecticides will continue to be made without DDT and marketed as usual for those buyers preferring them that way, the release stated.

"Peterman's 'Discovery' does become more effective with the addition of DDT, largely due to the company's recommended method of application with a brush, thus taking advantage of DDT's residual or preventive effect," the release stated. "On the other hand, DDT when combined with our standard formula for Peterman's 'Roach Killer' does not necessarily destroy a greater number of roaches—it merely speeds up the kill," it was pointed out.

"In certain cases, DDT is extremely effective and a welcome addition to the well-tried killers such as rotenone, pyrethrum and thiocyanates," the release said.

Says DDT Safe in Paint

The efficacy and safety of the use of DDT in a cold water paint have been "proved" following tests on some 500 farms, it was announced recently by Carbola Chemical Co., Natural Bridge, N. Y. The product is non-toxic as well as non-inflammable, it is claimed. Tests were begun a year and a half ago and have been made through county farm agents in various states, who have placed the insecticides with farmers and checked the results. Tests demonstrated, it is claimed, that flies, mosquitoes, spiders, lice, ants and other insects which momentarily alighted on walls that had been painted with DDT paint were killed. The water paint is not toxic, it is stated.

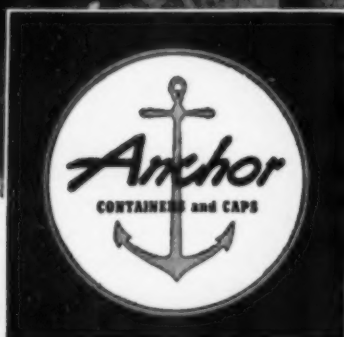
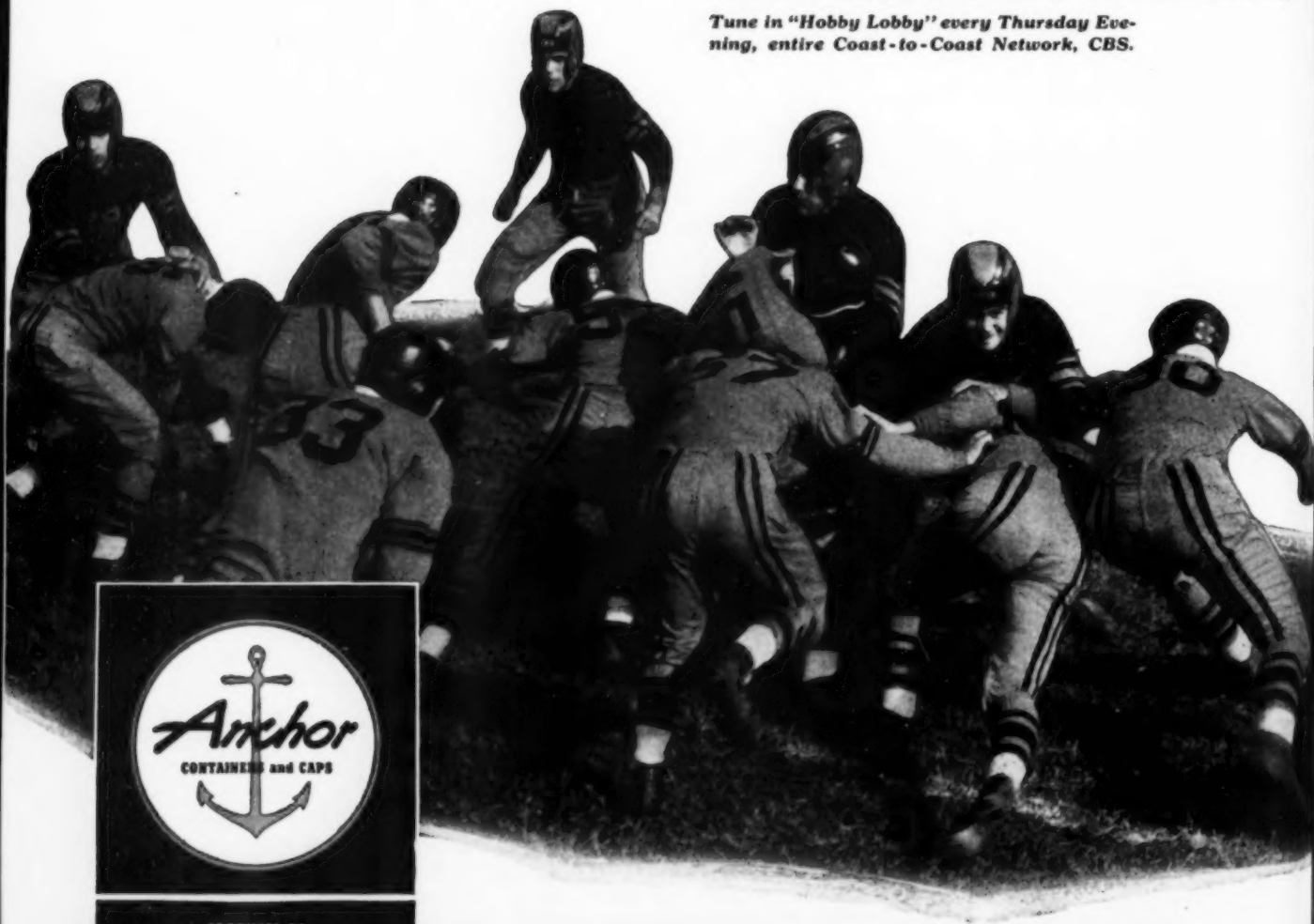
Better line coordination from CENTRALIZED RESPONSIBILITY

A GOOD football squad scores gains because it works as a team—with responsibility for its coordination centralized in the quarterback. Your packaging lines will function more smoothly, gain more production when responsibility for the "team"—the container and closure—is given to one reliable firm.

Anchor Hocking offers you a dependable source for the perfect "team"—Anchorglass containers and matching custom-fit Anchor Caps.

For trouble-free glass containers with accurate capacity and finish, with extra strength to resist production line and shipping knocks—for caps that go on fast, seal perfectly and keep your product in top condition—for coordinated supply—you can rely on Anchor Hocking.

Tune in "Hobby Lobby" every Thursday Evening, entire Coast-to-Coast Network, CBS.



PRODUCTS OF
ANCHOR HOCKING GLASS
CORPORATION
LANCASTER, OHIO



Cake Polishing Mixture

A self-polishing composition base of pH 8-10.5 is composed of a wax or wax and resin blend mixed with soap, water, and at times borax. For example, warm 6 parts of carnauba wax and 3 of Congo copal resin so they dissolve in each other. Add 9.8 parts of a hot aqueous solution of 6.3 parts of water, 1.2 of borax, and 2.3 of sodium soap made from 3 parts of oleic acid and 0.3 part of caustic soda. Mix at 180-210° F, stir vigorously and let cool. Other examples are given. L. C. Cartwright, to Foster D. Snell, Inc. U. S. Patent No. 2,374,414.

Parasiticides

Certain cyclohexylamino derivatives of polyhalophenols are used as toxic ingredients in parasiticial compositions. The compounds are crystalline solids difficultly soluble in water and in common organic solvents. They are stable to light and air. They are prepared by causing a suitable amine to react with an equimolecular quantity of a tri-, tetra-, or pentachlorophenol. An example is dicyclohexylamino-2, 4, 5-trichlorophenol. For dusting, these compounds are finely ground and mixed with diatomaceous earth in a ratio of 20-80 parts by weight. F. B. Smith and J. N. Hansen, to The Dow Chemical Co. U. S. Patent No. 2,363,561.

Pyrethrum Stabilization

Pyrethrum preparations can be stabilized against light by treatment with starch. The method is to impregnate starch with pyrethrum in a volatile solvent, evaporate the solvent, and suspend the starch-pyrethrum residue in an aqueous solution of a soluble salt of copper, zinc, tin, lead, manganese, or the alkaline earths. The metal is precipitated on the starch-pyrethrum particles as hydroxide, basic salt, carbonate or basic carbonate by alkali hydroxides, carbonates, or bicarbonates. The starch is said to be insolubilized in this way and the pyrethrum stabilized. Samples of such products have been shown to retain their toxicity to the American cockroach after exposure to air and sun-

light for 100 hours. Products prepared from starches containing 1-2 per cent of fatty acids adhere better to foliage, but are less readily wetted by water. Products containing copper or zinc salts possess fungicidal activity. Rotenone may be stabilized by similar treatment. J. C. De Jonge. U. S. Patents No. 2,375,773-4.

Mosquito Larvicides

Neither emulsion of tar-oil solvent, New Jersey Larvicide No. 2 (emulsion of oil, ortho-dichlorobenzene, and thiodiphenylamine), Velsicol emulsion, unemulsified kerosene, nor unemulsified mosquito oil was as safe for fish as the standard New Jersey Pyrethrum Larvicide No. 1. A light application of kerosene, not exceeding 50 gallons per acre, was used instead of mosquito oil with no injury to fish. None of the mixtures tested was entirely safe on plants. J. M. Ginsburg. *Proc. Ann. Meeting New Jersey Mosquito Exterm. Assoc.* 31, 102-4.

Mosquito Repellent Testing

Paired product testing for the evaluation of mosquito repellents consists of the simultaneous testing by an individual of a pair of repellents on paired arms or legs. Relative performance of repellents is more significant than absolute performance. This method gives the relative performance of 2 repellents under conditions which involve a minimum number of disturbing variables. The recently discovered fact that a superior repellent for one insect may be an inferior repellent for another, calls for much more extensive testing in evaluating any given product. P. Granett, *Proc. Ann. Meeting New Jersey Mosquito Exterm. Assoc.* 31, 173-8.

Russian Wax

Carnauba and montan waxes can be entirely replaced by a bleached Russian peat wax in the shoe industry. The following mixture is most satisfactory: peat wax 42-5, beeswax 20-5, paraffin 17-20, benzine 12-15, and turpentine 3-5 parts by weight. V. A. Abramychev. *Legkaya Prom.* 1, No. 4 43-4.

Carnauba Wax Composition

Approximately 32 per cent of the acids in carnauba wax are normal aliphatic acids. Evidence was found which indicated the presence of all of the even-carbon acids from C₁₈ to C₃₀. The remaining 68 per cent of the acids are unidentified, but the greater part of them are different in nature from normal aliphatic acids. Tetracosanoic acid is the most abundant of these normal acids and has been isolated in a form 95 per cent pure. S. D. Koonce and J. B. Brown. *Oil & Soap* 22, 217-8 (1945).

Oil Insecticide for Flies

A fraction of multiple-pass catalytically cracked petroleum oil having a boiling range of 500 to 750°F. was found to be particularly toxic to flies with respect to knock-down and to kill. The narrower the boiling range of the separated fraction, the more toxic the oil. Such an oil sample boiling from 610° to 740°F. of 1.9 A.P.I. gravity, Saybolt Universal Viscosity 106 seconds at 100°F., and pour point below 0°F. was found to be especially effective. This oil killed from 35 to 40 per cent more flies than the official test insecticide employed under similar conditions. Knock-down was substantially in excess of 90 per cent. V. L. Shipp, A. C. Pabst, and R. B. Killingsworth, to Socony-Vacuum Oil Co. U. S. Patent No. 2,374,387.

Insecticidal Floor Wax

It is suggested that if a way can be found to incorporate DDT in a liquid floor wax, such a product on the ground floors of factories would tend to keep out a lot of insects that crawl in during the course of a day. DDT is said to volatilize at the average rate of 0.11 milligrams per day. A good application would therefore last for some time. *Am. Perfumer*, p. 37, Sept. 1945.

Fumigant for Rodents

A concentration of ¼ pound of methyl bromide per 1000 cubic feet of cold storage space was lethal to rodents. F. W. Southwick, F. B. Schuler, and G. N. Alrough. *Proc. Am. Soc. Hort. Sci.* 45, 136-40.



ORBIS

PERFUMES and DEODORIZERS
will improve your
1946 FLY and INSECTICIDAL SPRAYS
because

scientific compounding assures complete solubility in the base oil. Consequently, they will not cloud, weaken or destroy the killing power of your spray. They will not stain. These are very important facts to consider when selecting your new odor. Does your

present perfume meet all these requirements?

Orbis' Perfume Research Laboratory has created many new and promising odors that will be adopted by successful manufacturers for their 1946 sprays.

Consult us regarding your perfuming and deodorizing problems. Let us help you select the proper perfume for your particular formulation.

We solicit your inquiries

ORBIS

PRODUCTS CORPORATION

215 PEARL STREET, NEW YORK - FACTORY & LABORATORY, NEWARK, N.J.

CHICAGO PHILADELPHIA MEXICO, D. F.
660 North Dearborn St. 610 Brown Bldg. Apartado Postal 8919

BOSTON
89 Broad Street

LOS ANGELES
1807 E. Olympic Blvd.

MEMPHIS, TENN.
1620 Carr Ave.

Water Soluble Gums
Filter Paper
Aromatics
Rice Starch

Waxes
Stearic Acid
Essential Oils
Zinc Oxide French

Cosmetic Raw Material
Oleo Resins
Perfume Bases
Olive Oil

Fruit Flavors
Food Colors
Quince Seed
Irish Moss



HENRY NELSON
Chemical Supply Co.
N.A.I.D.M. President



H. W. HAMILTON
Koppers Co., White Tar Div.
N.A.I.D.M. Secretary



A. W. MORRISON
Socony-Vacuum Oil Co.
Heads Program Committee

N. A. I. D. M. Meets Dec. 3-4 in N. Y.

NATIONAL Association of Insecticide & Disinfectant Manufacturers will hold its 32d annual meeting in New York on December 3 and 4 at the Commodore Hotel, according to an announcement from H. W. Hamilton of the Koppers Company, NAIDM secretary. The meeting will extend over two days with group luncheons each day and will end with an informal dinner and entertainment on the evening of Dec. 4. Preceding the regular meeting, various committees will get together on Sunday, Dec. 2 and a meeting of the Board of Governors will be held also on Dec. 2.

Henry A. Nelson of the Chemical Supply Co., Cleveland, president of NAIDM, has announced that the program committee is headed by A. W. Morrison of the Socony-Vacuum Oil Co., New York, and the entertainment committee by Charles Opitz of John Opitz, Inc., Long Island City. Other members of the program committee include Friar Thompson of R. J. Prentiss & Co., New York; C. L. Weirich of the C. B. Dolge Co., Westport, Conn.; Frank Nelson of Stanco, Inc., Bayway, N. J.; and Arthur Pabst of Socony-Vacuum Oil Co., New York. D. W. Lynch of John Powell & Co.,

Chicago, will be in charge of registration. An attendance of 400 is anticipated by the Association officers.

Suspend OPA Ceilings on Carnauba and Other Waxes

YIELDING finally to repeated demands from both importers and users of carnauba and other imported vegetable waxes, the OPA suspended its price controls on these materials effective October 24. It will thus now be possible for American importers to bid once more for supplies in the world market, although it will probably be several months at the earliest before any substantial tonnage can be expected to arrive in the United States. It will be a much longer time, of course, before anything resembling a normal stock position is re-established, as all wax importers have a big backlog of long past due, unfilled orders on which to work. Prices quoted in Brazilian markets on carnauba wax are reported to run eight to ten cents per pound above former OPA ceilings.

Highlights of the program include a series of symposia on insecticide labeling, DDT preparations, insecticide grading, stock and animal insecticides, carnauba wax supplies, specifications and grading, disinfectant evaluation, and allied subjects. Speakers and discussion leaders will be announced at a later date.

Before the carnauba wax ceiling prices were abandoned, a group of floor wax manufacturers met at the Hotel Pennsylvania, New York, October 11, and following a discussion of the serious supply problem, named a committee to confer with government officials with a view to getting ceiling prices taken off. Joseph Green of Oil Specialties and Refining Co., Brooklyn, was chairman of the meeting, and the committee named to take the industry's case to Washington was headed by Melvin Fuld of Fuld Bros., Baltimore. Other members included J. P. Scully of R. M. Hollingshead Corp., Camden, N. J.; Fred Newall, Wilbert Products Co., New York, and C. E. Smith of Socony Vacuum Oil Co., New York.

(Turn to Page 156)

MACKENZIE DETERGENTS

METASIL

(sodium metasilicate penta hydrate) for laundries, metal cleaning and compounding.

METAPLUS

for general cleaning, for metal and textile cleaning. Will replace T. S. P. to advantage in compounds.

DRIVEWAY CLEANER

for driveways, runways, garage and factory floors, grease pits, etc.

DISHWASHING COMPOUND

for dish washing machines and all spray washing machines.

CONCENTRATED SOAP POWDER

a concentrated soap powder for hard, cold or hot water

VAPOR CLEANER

for pressure type steam cleaning machines.

Our line of Basic Cleaning Chemicals and Compounds is priced for Profitable Repeat Business

TERRITORIES OPEN FOR JOBBERS

MACKENZIE LABORATORIES, Inc.

Front and Yarnall Streets, Chester, Pa.

IT PROVIDES DOUBLE BEAUTY!



RexGlo-X

THE SUPER FLOOR TREATMENT

Two kinds of floor beauty may be had with RexGlo-X . . . either the rich lustre revealed when the treatment dries or a high glossy finish that may be obtained by machine polishing. Here is a two-type finish to please every one.

RexGlo-X is tougher, more durable than ordinary self-polishing waxes. It's non-slippery . . . immediately waterproof. It's never soft, sticky or brittle and does not scratch. Scuff marks are easily wiped out with machine polishing or a yarn dust mop. Applied with sheepskin applicator or string mop to linoleum, asphalt tile, composition flooring, varnished, sealed, shellacked or painted wood, marble, terrazzo, tile, rubber, and painted or "raw" cement. Priced right for profitable selling.

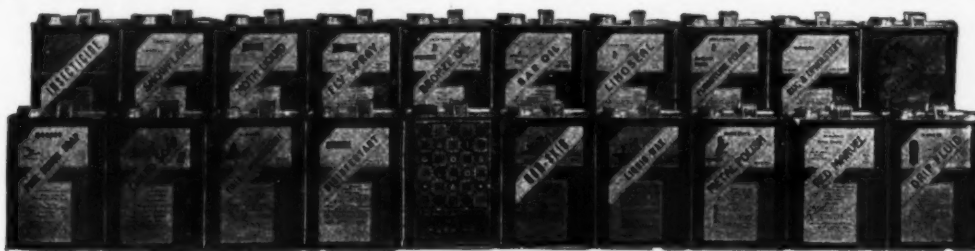
Write for full details and free sample.

CONTINENTAL CAR-NA-VAR CORP.

Specialists in Treatments for Large Floor Areas

1630 E. National Ave., Brazil, Ind.

MANUFACTURERS FOR THE JOBBERS



DISINFECTANTS AND DEODORANTS

Coal Tar Disinfectants
Pine Oil Disinfectants
Urinal Cakes
Deodorant Blocks
Perfume Sprays
Pine Deodorant

FLY SPRAYS

MOTH SPRAYS

INSECTICIDES

LIQUID SOAPS

HAND — FLOOR

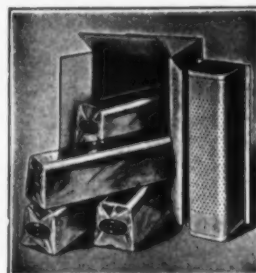


POLISHES

Metal
Furniture
Bar Oil
Cedar Oil
Silver Paste
Lemon Oil

WAXES

Non-Rubbing
Prepared Liquid
Prepared Paste
Powdered Dance Wax



Write for Our Descriptive Catalogue and Price List

UNCLE SAM CHEMICAL CO. INC.

575 West 131st Street

1920-1945

New York 27, N. Y.

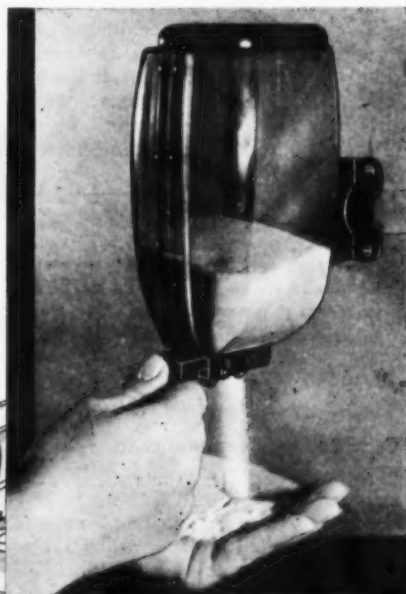
FEDERAL All-Plastic SOAP DISPENSER

Transparent . . . strong, long-wearing, light in weight • Stream-line styling for modern eye appeal • Positive agitator prevents packing . . . insures smooth, even flow • Non-clog, thrust-in discharge valve easily taken apart for cleaning • Heavy brackets for direct mounting to wall or pipe • Wide-opening top for easy filling • Use your own nameplate • Capacity: one quart • Overall size: 8" high x 3 1/4" x 3 1/2" • Fully guaranteed.

Designed for: industrial plants, public buildings, office buildings, schools, etc.

(WE DO NOT SELL SOAP POWDER)

FEDERAL TOOL CORP.
406 NORTH LEAVITT STREET
CHICAGO 12, ILLINOIS



November, 1945

Say you saw it in SOAP!

133

*Cleans the floors while
it seals the pores*



FEDERAL LIGHTNING LUSTRE WAX BASE SOAP CLEANER

FOR ALL TYPES OF FLOORS

This product has unusually excellent cleaning efficiency on all painted, enameled and varnished surfaces — floors, walls, shelves, cabinets, bath tubs, sinks, wood-tile, linoleum or metal. It leaves a thin wax film in the pores and on the surface and therefore gives added protection against wear. Increased production has reduced our cost. You can buy it

NOW at a NEW LOWER PRICE

FEDERAL RUBBER BURN CLEANER & REVIVER

*There Is a Big Market for This
Super Quality Product ! ! !*

Quickly removes stubborn rubber burns without removing the floor finish. It is mild but effective.

Federal Rubber Burn Cleaner and Reviver removes rubber burns from sealed wood, linoleum, concrete floors, painted, enameled and varnished surfaces quickly, efficiently and without special effort. This product is needed by gyms, bowling alleys and schools from coast to coast.

FEDERAL VARNISH COMPANY

FLOOR FINISH DIVISION

DEPT. 1145 331-337 S. PEORIA STREET
CHICAGO ILLINOIS

Ready Mixed Ready to Use

PER-MO RAT-BITS

MADE WITH
FORTIFIED RED SQUILL
KILLS RATS, MICE, MOLES
NON-POISONOUS

TO HUMANS, PETS, DOMESTIC ANIMALS
MAKE BIG MONEY
SELLING PER-MO BITS

Every Home and Business wants this SAFE-TO-USE, effective RED-SQUILL rat bait. SELL it under our name or YOUR OWN NAME. You'll sell it FAST in BIG AMOUNTS. It does its job—Steady CASH for YOU! Order your supply today! PACKED IN 3 oz., and 16 oz. paper cans, or in bulk.

☆ ☆ ☆

PER-MO

2 WAY RAT AND MICE LIQUID

USE AS A DRINK OR MIX WITH FOOD BAIT

Rats and mice destroy over \$200,000,000.00 worth of food stuffs and property in the U. S. every year.

One pair of rats breed from 6 to 10 times a year and can produce 1,200 descendants in one year.

☆ ☆ ☆

PER-MO Mothproofing Liquid

THE GUARANTEED MOTHPROOF LIQUID.
DRY CLEANING HAS NO EFFECT ON
PER-MO MOTHPROOF TREATMENT.

AS PER-MO HAS NO ODOR AND WILL NOT SPOT OR STAIN, IT APPEALS TO THE PUBLIC DUE TO THE FACT THAT IT CAUSES NO INCONVENIENCE WHILE MOTH-PROOFING FURNITURE, RUGS OR CLOTHING IN THE HOME, APARTMENT OR HOTEL ROOM.

☆ ☆ ☆

LITERATURE AND FULL PARTICULARS FIRST LETTER
ON THESE 3 PROFITABLE PER-MO ITEMS.

PER-MO MOTHPROOF CO.

3604 WOODLAND AVE.

KANSAS CITY 3, MO.

REILLY

COAL TAR CHEMICALS

...for the Soap and

Disinfectant Industries

CRESYLIC ACIDS—Reilly produces the entire range of Cresylic Acids—in standard grades or to buyers' specifications.

CRESOLS—U. S. P., Meta Para, Ortho and special fractions—to all specifications. In drums or tank car quantities.

XYLENOLS—Low boiling, high boiling and symmetrical Xylenols—in tank cars and drums.

NAPHTHALENE—Crude and refined prime white Naphthalene, in chipped, crystal, flake and powdered form. In 250-lb. barrels and 50-lb. fiber drums.



Send for your copy of this booklet (second edition) describing REILLY Coal Tar Chemicals

TAR ACID OILS

● In all grades, from 10% to 75% tar acid content, or of specified phenol coefficient, carefully blended . . . In 55-gallon drums and tank cars.

REILLY TAR AND CHEMICAL CORPORATION

500 Fifth Ave., New York 18, N. Y. • Merchants Bank Bldg., Indianapolis 4, Ind. • 2513 S. Damen Ave., Chicago 8, Ill.



Your Product RIDES TO SUCCESS! ON A Good SPRAYER!

The effectiveness of your insecticide, disinfectant, moth spray or deodorant—however carefully and scientifically prepared it may be—depends, actually, on its application.

That's why we urge you to sell efficient, precision-built Lowell Sprayers and Dusters with your products. They're engineered to do their jobs with utmost efficiency—and there's a Lowell Sprayer and Duster for every need.

Don't be "insecticide-wise and sprayer-foolish." Let Lowell Sprayers and Dusters help build your business. Write us!



WORLD'S LARGEST MANUFACTURERS OF SPRAYERS AND DUSTERS EXCLUSIVELY

LOWELL *Manufacturing Co.*

DEPT. 59, 589 E. ILLINOIS ST., CHICAGO 11, ILL.



Copyrighted 1945, Lowell Mfg. Co.

BE AMERICAN

BUY AMERICAN

BOOST AMERICAN

AMERICAN ANIMAL MUSKS

Sparhawk	Animal	Substitute
MUSKAT	MUSKRAT	CANTON MUSK
PETRA	SKUNK	CIVET
TOUCAN	DEER	TONQUIN MUSK
AMERIS	FISH	AMBERGRIS
MINX	MINK	BEAVER

BIOLOGICALS

DEHYDRATED RED CORPUSCLE BLOOD
 DRY POWDERED LIVER
 BONE-MARROW, Dehydrated
 FISH LIVER PASTE

SPARHAWK
 COMPANY



NATURAL
 AMERICAN

AMERICA

Her Glories float twixt Earth and Heaven
 Like Clouds unfurling to the Sun.
 A Land where Freedom's call was given.
 Her people answered—"Here we Come!"

God grants Liberty only to those who
 love it and are always ready to guard
 and defend it.—Daniel Webster.

Jobbers!

SELF POLISHING FLOOR WAX

- Lowest Prices
- Highest Quality
- Rich Carnauba Base

Write for Samples, Prices and Further Information

M & H LABORATORIES

2705 ARCHER AVE.

CHICAGO, ILL.

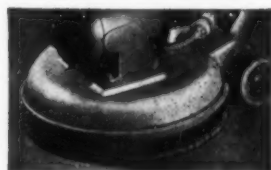
Sun Ray's Radial Strands Work Faster!



Safer Floors at Less Cost

All strands of Sun Ray Woolers are radially placed so that they constantly rotate at right angles to the work. This patented feature means quicker removal of excess wax and more efficient hardening of the wax film. The resulting finish is virtually slip-proof.

Sun Ray Woolers clean, dry-scrub and polish in one operation, regardless of whether the floor is wood, linoleum, rubber or mastic. They can be successfully used with a fibre brush on all disc-type floor machines. You'll save time and money with Sun Ray Woolers!



Simply lay the Sun Ray Wooler on the floor, tilt the machine and wheel it into position over the wooler, allowing brush to rest centrally on the pad. That is all there is to it—with any disc-type floor machine.

Sun Ray

Steel Wool Products

THE WILLIAMS COMPANY, LONDON, OHIO

The Williams Company, London, Ohio 5511

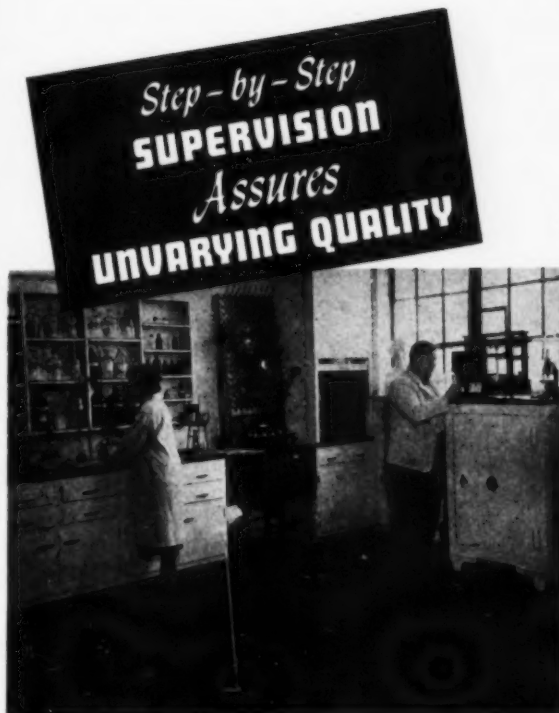
Send literature showing how Sun Ray's radial strands save time and money and make floors safer.

Name _____

Institution _____

Street _____

City & State _____



COLE gives you the Protection of

Laboratory-Control

You may rely with complete confidence on all Cole Products. For throughout their manufacture precision-inspection sets the standard. All Cole Products are definitely "laboratory-controlled".

D. D. T.

Insecticide
Powders and Liquid
All Formulas
All Size Containers
Private Labeling

For prices and literature, write Dept. S.C.

COLE LABORATORIES

23d St. and 37th Ave. • Long Island City, N. Y.

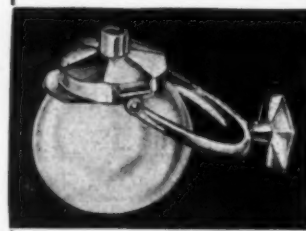
Did You Get Your New Price List?



#50

If you have not received our Price List and Illustrated Bulletin showing the new Moore line of SOAP DISPENSERS — please write for your copy today.

ISSUED ONLY TO "THE TRADE"



#300

MOORE BROS. CO.

Manufacturers of Soap Dispensers and Dispensing Equipment
100 WARREN ST., NEW YORK 7, N. Y.

Since
"1898"

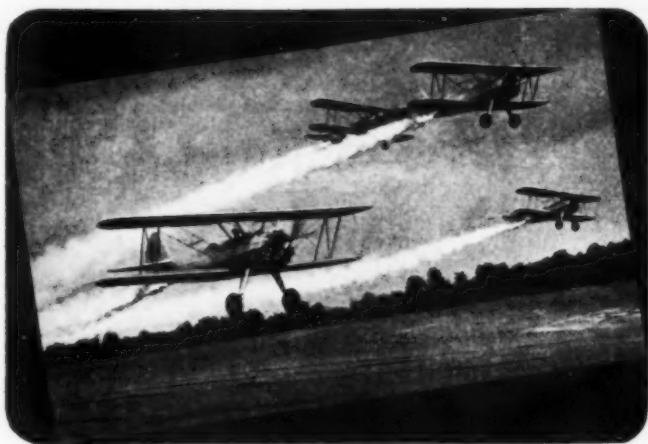
DISINFECTANTS
•
INSECTICIDES
•
CLEANING COMPOUNDS
•
SOAPS — POLISHES

*All for the
wholesale trade*

•
*Write for samples,
prices and full
information.*

THE CHEMICAL SUPPLY CO.

225 PLYMOUTH BLDG.
CLEVELAND 15, OHIO



Looking for a DDT*
Dust CARRIER?
Call in WHITTAKER

231

Whittaker, **C**larke & **D**aniels, **INC.**

260 West Broadway, New York 13, N. Y. • Plant: South Kearny, New Jersey

Whittaker has in stock a variety of dust carriers that have demonstrated their efficiency as diluents of DDT in insect and fungus control.

All Whittaker dust carriers comply with U. S. Agriculture Department standards—and Whittaker experience in supplying these carriers for years is at your disposal in helping you select the ones best suited to your needs.

Whittaker can supply recommended types of carriers in any particle size required—and Whittaker laboratory control assures you that shipments will be of uniform high quality.

Consult Whittaker... first... for technical assistance on DDT dust carrier problems. You'll find it pays.

* Dichloro-diphenyl-trichloroethane



EST.

1890

SALES REPRESENTATIVES

CHICAGO
 Harry Holland & Sons
 PHILADELPHIA
 Feltz & Company
 NEW ORLEANS
 Edward W. Ortenback

MEMPHIS, TENN.
 L. E. Offutt Co.
 CLEVELAND
 Palmer Supplies Co.
 TORONTO & MONTREAL
 Richardson Agencies, Ltd.

LIQUID FLOOR WAX

Formula 629

- ☆ Noted for top-quality performance under all ☆
- ☆ conditions. Made with Carnauba — no war- ☆
- ☆ time substitutes. Sold exclusively through jobbers. ☆

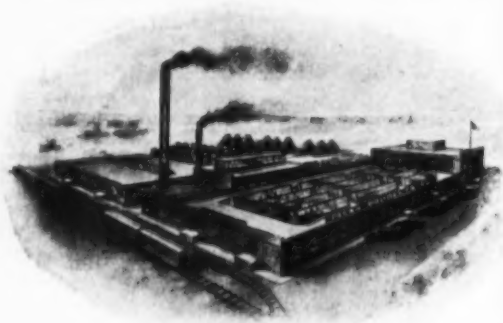
Write for further details

H. KREVIT & CO., INC.

11 Albert St.

New Haven 11, Conn.

Manufacturers of Quality Liquid Waxes



PECK'S #900 BASE

*For Making Pine Oil
Disinfectant*

Make Your Own Pine Oil Disinfectant with
#900 Base Cold Process in 5 Minutes !!!

Source for Potash Soaps of All Types
PASTE OR LIQUID

*Headquarters for
Sanitary Supplies since 1918*



Manufacturers of

DDT

MONTROSE CHEMICAL CO.

120 Lister Ave.

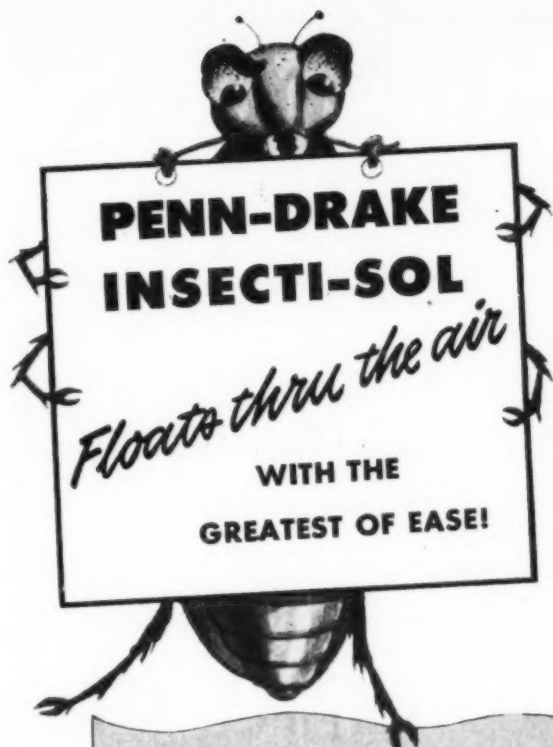
Newark 5, N. J.

Sales Agents

R. W. Greeff & Company

10 Rockefeller Plaza

New York



YOUR INSECTICIDE ...

saturates the air to the furthest corners when Penn-Drake Insecti-Sol is used as a base for the insecticides

Insecti-Sol penetrates deeper—actually saturates the air, yet provides perfect, stain-free safety for clothing, rugs, drapes, curtains, etc., by evaporating entirely upon completion of the toxic action.

Full-floating, crystal clear Insecti-Sol is the perfect base for makers of Pyrethrum extract; synthetic bases for insecticides; fly and insect sprays; fumigators; exterminators.

Write Dept. 108 today for valuable information regarding Insecti-Sol and Penn-Drake Odor-Free Naphtha—the perfect base for Mothicide preparations.

PENNSYLVANIA REFINING COMPANY

General Offices: BUTLER, PA.

Refineries at KARNES CITY and TITUSVILLE, PA.

Makers of White Oils (U. S. P. and Technical); Petrolatums (all grades and colors); INSECTI-SOL (deodorized insecticide base); Odor-Free and other Naphthas; Petroleum Sulphonates; Waxes; Industrial and Motor Lubricants and Greases; Fuel Oils and other petroleum products.

Compare !!!

BRI★TEST

LABORATORY CONTROLLED — QUALITY

CONCENTRATED

LIQUID SOAP
SHAMPOO

LIQUID HAND

SOAP

ALL CONCENTRATIONS

LIQUID OIL

SCRUB SOAP

NO RUBBING LIQUID

FLOOR WAX

FEDERAL SPECIFICATION P-W-151A

HEAVY DUTY

BULK — PACKAGE — PRIVATE LABEL

PRIVATE LABEL PACKAGING IN MASS
PRODUCTION LINES A SPECIALTY

PRIVATE FORMULAE MANUFACTURED AND PACKAGED

MANUFACTURERS AND PACKERS OF
SOAPS • SHAMPOOS • WAXES • POLISHES • CLEANERS

BRI★TEST PRODUCTS CORP.

800-814 EAST 136th STREET

BRONX 54, N. Y.

MIRAPON BK CONCENTRATE

SYNTHETIC ORGANIC DETERGENT

Specific for shampoo formulation. Write for free sample, technical information.

Distributors located in key cities. For Canada, write to Charles Albert Smith Limited, 123 Liberty Street, Toronto 1, Ontario, and 635 St. Paul Street, W., Montreal, P. Q.

THE MIRANOL CHEMICAL COMPANY, INC.

16 Melville Place

ES. 2-8800

Irvington 11, New Jersey

MANUFACTURERS SINCE 1896

NATIONAL MILLING & CHEMICAL CO.



Flake Soaps
Powdered Soaps
Soap Powders
Hand Soaps (Industrial)
Laundry Built Soaps
Dishwashing Soaps
Laundry Detergents

Dairy Cleaners
Glass Cleaners
Scouring Powders
Garage Floor Cleaners
Dishwashing Compounds
Germicidal Dishwashing Comp.
Hand Dishwashing Compounds

4601 NIXON ST.

PHILADELPHIA 27, PA.

Warren Heads Pioneer Chemical

After 29 months of service as Captain in the Army Air Corps, Clarence Warren has resumed active duty as head of Pioneer Chemical Co., sanitary supply house, Los Angeles, of which he became sole owner about one year ago. Associated with him as sales manager is another returned veteran, Murray Perskin. Plans are in the making, Mr. Warren announced, to double the company's floor space by the first of next year.

Thompson Talks on Pest Control

Friar Thompson, head of the insecticide department of R. J. Prentiss & Co., New York, spoke before the New Century Club, Wilmington, Delaware on Oct. 15th. His subject was "Bugs is My Business."

Dr. Dove Joins Dodge & Olcott

Dr. Walter E. Dove has resigned from the Bureau of Entomology and Plant Quarantine where for the past several years he has been the principal entomologist in charge of the Division of Insects Affecting Man and Animals, and has joined the insecticide department of Dodge & Olcott, Inc., New York, to organize and have charge of their Unit of Entomological Research. His staff will include Lawrence C. McAlister, Jr., formerly assistant director of the Orlando Station of the Bureau, Herman O. Schroeder, and Dr. Merrit P. Sarles.

A graduate of Mississippi State College, and with a degree of Sc.D. from Johns Hopkins University, Dr. Dove's work with the Bureau covered a wide range of insect control problems. He has become most widely known for his success in organizing and supervising the war work of the Orlando laboratory. To this unit was assigned in 1942 the task of finding immediate answers to the problems encountered by the Armed Services in protecting our troops from insect-borne diseases. The work involved testing a vast number of old and new

materials and developing new formulations and new techniques to meet new and strange requirements; and the re-



DR. WALTER E. DOVE

sults contributed very greatly to the low disease ratio maintained by the Services.

Mr. Lawrence McAlister, who is a graduate of Clemson College, served under Dr. Dove as Assistant Director of Research at Orlando, and prior to his assignment there had worked on a number of agricultural pest control problems.

Mr. Herman Schroeder, who is a graduate of Bethel Academy, with an MSc from Kansas University in 1930, worked on a wide variety of insect control problems for the Bureau before his assignment to the Army work at Orlando.

Dr. Merritt P. Sarles is a graduate of Wesleyan University and received his doctorate in 1929 from the School of Hygiene and Public Health of Johns Hopkins University. He has worked with the Rockefeller Institute, the University of Chicago, and more recently at the Beltsville Research Laboratory of the Department of Agriculture.

Dodge & Olcott, Inc. is now a totally owned subsidiary of U. S. Industrial Chemicals, Inc., and the insecticide and related activities of both companies have been concentrated in the insecticide department of Dodge &

Olcott. Both made major contributions to military insect control problems, Dodge & Olcott by the development of purified pyrethrum extract for use in the aerosol program, and U. S. I. through "Indalone" which the Armed Services used as a mosquito and fly repellent.

Other major developments in both field are in progress, and the Unit of Entomological Research under Dr. Dove and his associates will have as its function the entomological and toxicological evaluation of new materials and the study of formulations, as well as basic entomological research in the insecticide, insectifuge, and vermifuge fields.

Broncato Joins Hollingshead

Jacob S. Broncato, formerly chief chemist of Liquid Veneer Corp., Buffalo, and later connected with Continental Car-Na-Var Corp., Brazil, Ind., has joined the research staff of R. M. Hollingshead Corp., Camden, N. J., the company announced Oct. 5. In his new capacity Mr. Broncato will work on long range experimental studies of all phases of wax emulsion. He will no longer serve as a consultant for the wax industry.

John Powell & Co. Elects

John Powell was elected president of John Powell & Co., New York, and George R. Rinke was elected chairman of the board of directors, it was announced in October. Dr. Alfred Weed was elected vice-president in charge of research, and the following new officers were elected: W. J. Haude, vice-president in charge of sales; W. J. Pollert, vice-president in charge of production and H. Alvin Smith, vice-president and treasurer.

New N.A.I.D.M. Members

The following new, active members have been elected to the National Association of Insecticide and Disinfectant Manufacturers, it was announced recently: Chase'm Co., Philadelphia; Chemurgic Corp., Richmond, Calif.; Fumol Corp., Long Island City, N. Y.; Imperial Chemical Co., Shenandoah, Ia.; and York Chemical Co., New York.

ODORLESS BASE for DDT

If you are looking for an odorless base for your new DDT insecticide, — we have it! We are prepared to make immediate shipment from large spot stocks. Also odorless petroleum distillate for oil base pyrethrum insecticides.

STEAM DISTILLED PINE OIL

STEAM DISTILLED DIPENTENE

ROSIN

TALL OIL

PARAFFIN OIL

LINSEED OIL

DENATURED ALCOHOL

CAUSTIC POTASH

CAUSTIC SODA

TURPENTINE

Gum Spirits, U. S. P. and Rectified, Steam Distilled Wood, Sulphate Wood

CHAS. L. READ & CO., INC.

120 Greenwich St.

COrtland 7-8865-6-7

New York City

SANDERS-EAVENSON CHEMICAL CO.

55 LIBERTY STREET

NEW YORK 5, N. Y.

FOAMING AND WETTING AGENTS AND SYNTHETIC
DETERGENTS.

WE HAVE SOLVED CRITICAL MATERIAL SHORTAGE CONDITIONS
BY THE USE OF OUR EQUALLY EFFECTIVE FORMULAS.

SPECIAL FORMULAS MANUFACTURED AND COMPOUNDED.

Joins Continental Car-Na-Var

R. S. Huffman, formerly of Sherwin-Williams Co. and Chrysler-Dodge Co., has joined Continental Car-Na-Var Corp., Brazil, Ind., as chief chemist, the company announced in October. A Purdue University graduate, who studied for a year and one-half at the University of Chicago, Mr. Huffman was chief chemist at Sherwin-Williams, and technical director of foundry and laboratory technician with Chrysler-Dodge Co.

Wilson Forms Own Company

James A. Wilson, formerly a sales representative for Dow Chemical Co. in New York, and for the past three years production manager of Tedlee Chemical Corp., prior to joining Regal Chemical Corp., Brooklyn, has formed his own company, Wilson Chemical Co., Brooklyn, he announced recently. The new company will engage in the sale and distribution of chemicals and chemical specialties, both domestic and export, including aerosol bombs, DDT and DDT products. The new company has been named a New York distributor for aerosol bombs made by Bridgeport Brass Co., Bridgeport, Conn.

Dicalite Expands Personnel

Dicalite Co., Los Angeles, last month announced the addition of four men to its eastern division. They include Gordon C. Garland, who will cover the metropolitan New York area; Leo P. Newton, who is covering New England paper mills; Marshall W. Ramsey, formerly of the Philadelphia Quartermaster Depot (who is covering Philadelphia, and Dwight S. Master, formerly an army captain, who is covering Northern New Jersey.

Abbott Heads New Division

Fred C. Abbott, associated with the market research and sales departments since joining the company in 1943, was appointed manager of the new products division of Pennsylvania Salt Mfg. Co., Philadelphia, it was announced by the company Oct. 23. The function of the new division will be the introduction and development of

sales of new industrial chemicals and specialties being made available by the company's research program.



Dr. Donald F. Starr, who was announced last month to have joined the research department of S. B. Penick & Co., New York, will continue studying chemical problems related to the formation and application of DDT.

Oachs Heads N. Y. Exterminators

Mildred H. Oachs, of Ozane Co., New York, was elected president of the Professional Exterminators Association, New York, at the group's Oct. 15 meeting, held at the Hotel Commodore. Joseph Finneman, of Pest Control Corp., New York, president of the association for the past five years, was elected vice-president, while the secretary, Jack Shaff, of A & P Exterminating Co., Brooklyn, and treasurer William Farrell of Effective Exterminating Co., Brooklyn were re-elected. The directors named were: Jacob L. Huberman, Scientific Exterminating Co., Jack Benmosche, Evans Exterminating Co.; and Charles Pomerantz, Bell Exterminating Co., all of New York; and William Thorpe, Tops Exterminating Co., and Raymond Davenport, Davenport Pest Control, both of Brooklyn.

Marketing New Insecticide

Bromm Chemical Co., Evansville, 8, Ind., is distributing in the institutional field a new folder entitled "When They're Down They're Out," describing their new "444" concentrated vaporizing insecticide.

Washburn to Make Insecticides

T. F. Washburn Co., Chicago, is now producing insecticides and disinfectants in finished form, for the general trade, as well as raw materials for insecticide manufacturers, the company announced recently.

McCormick Honors General

McCormick & Co., Baltimore, employees gave a dinner recently honoring Major General Philip Hayes, Commanding General, Third Service Command, and food companies in Maryland which have won wartime production awards. About 685 employees of McCormick, including 135 of the company's salesmen, 35 high ranking army and navy officers and 95 other guests were present. Charles P. McCormick, president of McCormick & Co., paid tribute to General Hayes on behalf of businessmen in the Baltimore area for the "Splendid cooperation between military and civilian factors in the community during the war years."

Sinclair Pest Control Booklet

Sinclair Refining Co., New York City, has issued a new 24-page booklet, entitled "Insect Pests and Their Control," which explains where household and other insects propagate, what insecticides are available to repel and destroy them and methods for using "Sinclair Insect Spray" for their destruction.

NSS Assn. Adds 27 New Members

National Sanitary Supply Association continues its rapid growth as indicated by reports of new members carried in the semi-monthly news bulletins from Chicago headquarters. Twenty-seven new members have been added within the past two months.

Hunter Joins Cans, Inc.

H. L. Hunter, for the past three and one-half years director of the Forest Products Division of the Office of Civilian Requirements, War Production Board, recently joined Cans, Inc., Chicago, as a special sales representative. Before serving with the War Production Board, Mr. Hunter worked in the glass container and closure field.

MIRVALE

CRESYLIC ACID

**HIGH BOILING
TAR ACIDS**

NAPHTHALENE

**TAR ACID
CREOSOTE OIL**

**MIRVALE
CHEMICAL CO. LTD.
MIRFIELD, YORKS.
ENGLAND**

STATEMENT OF OWNERSHIP

Statement of the ownership, management, circulation, etc., required by the Acts of Congress of August 24, 1912, and March 3, 1933 of Soap & Sanitary Chemicals, published monthly at New York, 1, N. Y., for October 1, 1945.

State of New York, County of New York.

Before me, a Notary Public in and for the State and County aforesaid, personally appeared Ira P. MacNair, who, having been duly sworn according to law, deposes and says that he is the Editor of Soap & Sanitary Chemicals and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, MacNair-Dorland Company, Inc., 254 W. 31st St., N. Y. 1; Editor, Ira P. MacNair, 254 W. 31st St., N. Y. 1; Managing Editor, Wayne E. Dorland; Business Manager, Grant A. Dorland, 254 W. 31st St., N. Y. 1.

2. That the owner is: (if owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

MacNair-Dorland Co., Inc., 254 W. 31st St., N. Y. 1; Ira P. MacNair, 254 W. 31st St., N. Y. 1; Grant A. Dorland, 254 W. 31st St., N. Y. 1.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stocks, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the months preceding the date shown above is — (This information is required from daily publications only.)

IRA P. MACNAIR, Editor.

HARRIET LEVINE, Notary Public.

Bronx County Clerk's No. 145. New York County Clerk's No. 812.
Commission Expires March 30, 1946.

MORE PROFITS

**FOR YOUR COMPANY
LESS WORRY and EXPENSE
FOR YOU**

TO sell your business for cash to a reputable and experienced operating concern with substantial capital may be the best thing for both the company and you.

WE are principals (not brokers) with a record of successful operating experience. Present company personnel retained wherever possible.

• ALL discussions and negotiations
strictly confidential

Box 1215—1474 Broadway, New York

Flexibility In Crutcher Performance

The HUBER ELECTRO PERFECTION CRUTCHER offers a choice of four forward and reverse speeds. The flexibility in operating technique afforded by this wide choice of crutcher speeds should be decidedly interesting to many soap makers. Available in three sizes—1,500, 2,400 and 3,200 pounds.



HUBER MACHINE CO.

"Builders of Good Soap Machinery for the Past 45 Years"

265 46th STREET

BROOKLYN, N. Y.

Reilly Endows Notre Dame

The University of Notre Dame has received a gift of \$1,000,000 from Peter C. Reilly, president of Reilly Tar & Chemical Corp., and Republic



PETER C. REILLY

Creosoting Co., Indianapolis, it was announced late in October. The contribution, largest single gift in the history of the university, of which Mr. Reilly is a trustee, will be known as the P. C. Reilly science fund, and will be an endowment. Mr. Reilly specified that the income from the endowment is to be used in the field of chemistry and chemical engineering. Awards specified include an annual fellowship to the outstanding lay members of the graduating class in chemical or chemical engineering departments of Notre Dame, four annual graduate non-teaching fellowships of \$1,000 each for graduates of chemistry or chemical engineering from Notre Dame or schools other than Notre Dame; and an honorarium of \$5,000 annually to an outstanding chemist or chemical engineer for a one-semester series of lectures at the university.

Aetna Distributing "Fosklor"

Aetna Chemical Co., East Paterson, N. J., was appointed a distributor of "Fosklor," a new chlorinated detergent-disinfectant made by Westvaco Chlorine Products Corp., New York, it was announced last month. Aetna will cover eight northern New Jersey counties and Rockland county in New York. "Fosklor" is a white, ready-to-use soluble powder

containing sodium hypochlorite and trisodium phosphate. Dissolved in water, "Fosklor" is a bactericide, germicide and deodorant with bleaching and water softening characteristics.

Penn Salt Research Staff

Pennsylvania Salt Manufacturing Co., Philadelphia, announced recently the following additions to its research and development staff: Dr. E. B. Gonyou, formerly with Production Division, U. S. Army Service Forces and liaison officer to Chemicals Bureau, WPB, has been appointed assistant to the manager of research and development department. Prior to his army service, he served as development Engineer for Grasselli Chemicals department of E. I. du Pont de Nemours & Co. Dr. Harry G. Walker, research entomologist of Virginia Truck Experiment Station, Norfolk, will have immediate charge of the development of new and improved agricultural chemicals. He has been previously associated with the Ohio Agricultural Experiment Station and the Crop Protection Institute. Dr. Thaddeus Parr, previously with the Bureau of Entomology and Plant Quarantine, U.S.D.A., has been appointed senior research entomologist. Murray Zakheim, chemist at Defense Plant Corporation, Cornwells Heights, Pa., operated by Pennsylvania Salt Manufacturing Co., has been transferred to the research and development department.

Announce New Emulsifier

Carbide and Carbon Chemicals Co., New York, announced recently that mixed isopropanolamine is now available. It is recommended for use in emulsified finished products, particularly where color of the finished product is important. Mixed isopropanolamine soaps are said to be completely oil-soluble, are an amine product, which is a viscous, hygroscopic liquid with a slightly ammoniacal odor. The combined weight of mixed isopropanolamine is 135 to 145, or approximately the same as that of triethanolamine. Further information can be had directly from Carbide and Carbon Chemicals Corp.

Silbersack Heads Amer. Home

Walter F. Silbersack, executive vice-president and general manager of American Home Products Corp., New York, was elected Oct. 29, as president,



WALTER F. SILBERSACK

succeeding Knox Ide, who continues as a director and general counsel. After his election at the board of directors' meeting, Mr. Silbersack announced that the company had a gross profit before taxes for the first nine months of 1945 of \$11,089,966, which after taxes, amounted to \$3,943,718, equal to \$3.60 a share on the average number of shares outstanding during the period. In the corresponding period of 1944 the corporation earned \$3,426,475, equal to \$3.53 a share.

CSA Elects Nominators

A nominating committee, consisting of: Ralph E. Dorland, Dow Chemical Co.; Joseph Wafer, of the Industrial Chemical Sales division of West Virginia Pulp and Paper Co.; Robert Gould, of Heyden Chemical Co.; Ira Vanderwater, of R. W. Greeff & Co.; Phil LoBue, of Michigan Chemical Co.; Ed McGuire, of E. I. du Pont de Nemours & Co. and Wallace Merrill of Joseph Turner & Co., were elected at the annual dinner of the Salesmen's Association of the American Chemical Industry, held Oct. 24, at the Hotel Roosevelt, New York. The nominating committee will meet shortly to select officers for 1946. Plans were discussed for the annual Christmas party of the Salesmen's Association, which will be held Dec. 20, at the Hotel Roosevelt.

ATTENTION JOBBERS

Let us compound your formulas for dry alkali mixtures at surprisingly low cost — from a barrel to a carload. Complete stocks of alkalies maintained at our plant. Pulverizing facilities also available.



AIXTON-CROSS CO.

CHESHIRE, CONN.

Tel.: New Haven 6-9924



COLORS

for

Toilet Soaps Shampoos
Liquid Soaps Lotions
Para Blocks Hand Soaps
Shave Creams Sweep Compounds
and other Chemical Specialties

* * * *

Does your product require a *certified color* under the new law? Let us advise you, and supply you with exactly the right color for the right purpose!

Interstate Color Co., Inc.

9 Beekman Street

New York

"Color it for greater sales appeal."

Cetyl Alcohol

Available in the finest grade, packed in 50 or 100 pound containers ex-warehouse New York City. . . . We guarantee this material to conform to the most rigid specifications of your production department. . . . *Uses:* a base for cosmetics, hand and massage creams; a fixative for synthetic aromatics and similar products.

Myristyl Alcohol

This is an exceptionally high quality ingredient for cosmetics. It is available for prompt delivery.

Whatever your chemical needs—call us!



WILLIAM D. NEUBERG COMPANY

Chemicals

420 LEXINGTON AVENUE • NEW YORK 17, N. Y.
TELEPHONE LEXINGTON 2-3324

TRI SODIUM PHOSPHATE

JOHN A. CHEW

INCORPORATED

60 E. 42nd ST.

MU. 2-0993

NEW YORK CITY

Gen. Catron Joins McCormick

Brigadier General Thomas B. Catron, formerly Chief of Staff of the Third Service Command, U. S. Army, is now associated with McCormick and Company, Baltimore, as vice-president of McCormick Overseas Trading, Inc. General Catron will assist in the expansion of world markets for McCormick products, and will shortly leave on a trip to Mexico, Hawaii and the Philippines. McCormick Overseas Trading, Inc., is the export sales subsidiary of McCormick and Company, Inc.

Issue Folder on "Floor-San"

Huntington Laboratories, Inc., Huntington, Ind., are circularizing the trade with a new folder which discusses "Floor-San," universal floor cleaner. Applications, action and characteristics are described and the product is declared to be "safe for all types of flooring."

Blame DDT for Illness

Use of a DDT spray was blamed by Dr. Robert Evans, health commissioner of Franklin County, Ohio, for the recent illness of eight members of a family in Hilliard, Ohio. Four adults and four children in the family of Leo J. Massie were affected upon arising, after spraying their home the night before.

Test Insecticide Fog Device

A fog machine that saw service in providing cover for American troops crossing the Rhine river has been under test at Michigan State College, East Lansing, Mich., to determine its utility as a spray machine for orchard and horticultural crops. Field tests are reported to indicate that the fog dispensing machine will cover in less than an hour an orchard acreage ordinarily sprayed by a 25-gallon-a-minute outfit in a day. The equipment is described as "not much larger than a household washing machine and can be carried in a pick-up truck. Employing a generator that heats and vaporizes the material, the fog machine makes possible use of an oil base and a highly concentrated mixture. Transportation of large tanks of water is eliminated. One-half gallon of liquid

in the fog machine will cover as much as 125 gallons of water-mixed spray in the standard rig." Dr. H. H. Tukey of the MSC horticultural department, says that the fog machine "may or may not be the final answer to elimination of the large volumes of water required as a base for sprays, but future developments are likely to be in this general direction."

New Fungicide Manufacturer

Formation of a company to make copper fungicide and copper hydroxide was announced recently from Calumet, Mich., where the new firm will locate and operate under the name of Lake Chemical Co. E. R. Locell, of Calumet, will be president of the firm, which is to be capitalized at \$300,000. Other officers are W. J. Harshaw, Cleveland, vice-president; D. T. Perry, Cleveland, secretary, and A. D. Nichols, Boston, treasurer. The firm plans to begin operations about Jan. 1, 1946.

Thomas California-Spray V.P.

W. W. Thomas, formerly district manager for California Spray-Chemical Corp., Richmond, Calif., in charge of their operations in eastern sections of the United States, has been elected vice-president and sales manager for the company, it was announced recently. Mr. Thomas will make his headquarters at the main office of the company in Richmond. He received his technical training at the University of California, Berkeley, doing graduate work in plant pathology and holding a master's degree in that field. He has been associated with California Spray-Chemical Corp. for 22 years, first in technical work and later in sales and management. Russell Dorman, formerly assistant to Mr. Thomas succeeds him as district manager, with headquarters in Elizabeth, N. J.

Lighting Fixture Cleaner

Magnus Chemical Co., specialists in industrial cleaners, Garwood, N. J., have announced a new product, "Magnus N X L" for cleaning lighting fixtures.

Insect Repellent 6-12

Limited quantities of Insect Repellent 6-12 are being offered to the civilian market by Carbide & Carbon Chemicals Corporation, New York. The chemical, which has a glycerine-like consistency and a mild aroma similar to that of witch hazel, is rated as 6-7 times more effective than citronella in repelling mosquitoes. Applied to the insides of trouser and sleeve cuffs, a little of the liquid, which is described chemically as 2-ethyl hexanediol-1,3, is said to repel chiggers.

GLF Credits Insecticide Returns

Cooperative GLF Exchange, Inc., Ithaca, N. Y., has offered its various service agency representatives and licensed commercial outlets the privilege of returning to the co-op's warehouses any insecticidal dusts on hand which might deteriorate over winter. A sliding scale of discounts applies on returns. Only full, original and unbroken packages of 1945 material with original tags or labels intact are accepted and the material must be in good physical and chemical condition.

Offer Odorless DDT Base

Chas. L. Read & Co., New York, have recently added to their line an odorless petroleum base for use in the formulation of DDT insecticides. It is the same general type product used by insecticide manufacturers in odorless oil base insecticides, but specially formulated with a view to providing adequate solubility for DDT.

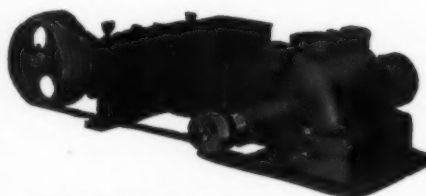
Bartlett Doubles Capacity

N. M. Bartlett Spray Works, Beamsville, Ontario, Canada, manufacturers of insecticides and fungicides, and believed to be the only firm manufacturing dried flotation sulphur on the North American Continent, have doubled their present factory capacity to meet the growing needs of the agricultural industry, it was learned here recently. The firm is the only one in Canada making micronized sulphur, which is claimed to be their own development.

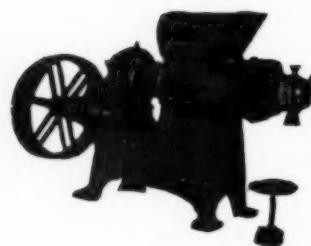
Special Offerings of **SOAP MACHINERY** *Completely Rebuilt!*



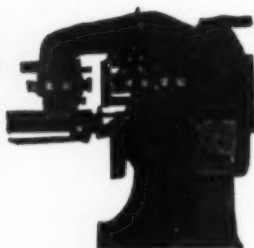
Newman's BRAND NEW
Steel Steam Jacketed
SOAP CRUTCHERS
Sizes 1,000 to 10,000 lbs.



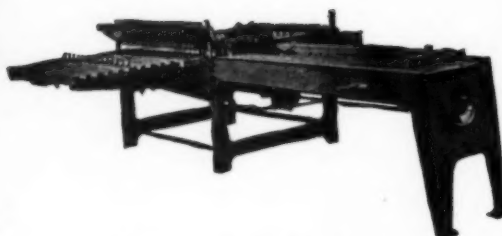
SOAP POWDER MILLS
Sizes 10A and 14



Single screw soap plodders
with 6, 8, 10 or 12 inch screws.
All completely rebuilt and
unconditionally guaranteed.



4 JONES AUTOMATIC com-
bination laundry and toilet
soap presses. All complete
and in perfect condition.



2 Automatic Power Soap Cutting Tables.

**INVESTIGATE
THESE SPECIAL
BARGAINS**

Johnson Automatic Soap
Chip Filling, Weighing
and Sealing Machines
for 2 lb. and 5 lb. Pack-
ages guaranteed in per-
fect condition.

ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

H-A, 1500, 3000, 4000, 5000 lbs. capac-
ity. Steam Jacketed Crutchers.

Dopp Steam Jacketed Crutchers, 1000,
1200, 1500 lbs. and 800 gals. capacity.

Ralston Automatic Soap Presses.

Scouring Soap Presses.

Empire State, Dopp & Crosby Foot
Presses.

2, 3, 4, 5 and 6 roll Granite Toilet
Soap Mills.

H-A 4 and 5 roll Steel Mills.

H-A Automatic and Hand-Power slab-
bers.

Proctor & Schwartz Bar Soap Dryers.

Blanchard No. 10-A and No. 14 Soap
Powder Mills.

J. H. Day Jaw Soap Crusher.

H-A 6, 8 and 10 inch Single Screw
Plodders.

Allbright-Nell 10 inch Plodders.

Filling and Weighing Machine for
Flakes, Powders, etc.

Steel Soap frames, all sizes.

Steam Jacketed Soap Remelters.

Automatic Soap Wrapping Machines.

Glycerin Evaporators, Pumps.

Sperry Cast Iron Square Filter Presses.
10, 12, 18, 24, 30 and 36 inch.

Perrin 18 inch Filter Press with
Jacketed Plates.

Gedge-Gray Mixers, 25 to 6000 lbs.
capacity, with and without Sifter
Tops.

Day Grinding and Sifting Machinery.
Schultz-O'Neill Mills.

Day Pony Mixers.

Gardiner Sifter and Mixer.

Proctor & Schwartz large roll Soap
Chip Dryers complete.

Dopp Steam Jacketed Soap Crutchers,
1000, 1200 and 1350 lbs. capacity.

Day Talcum Powder Mixers.

All types and sizes—Tanks and Kettles.

Ralston and H-A Automatic Cutting
Tables.

Soap Dies for Foot and Automatic
Presses.

Broughton Soap Powder Mixers.

Williams Crutcher and Pulveriser.

National Filling and Weighing Ma-
chines.

*Send us a list of your surplus equipment—
we buy separate units or complete plants.*

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 WEST 35th STREET, CHICAGO

Phone Yards 3665-3666

Our Forty Years Soap Experience Can Help Solve Your Problems

FOSTER D. SNELL, INC.

Our chemical, bacteriological, engineering and medical staff with completely equipped laboratories are prepared to render you Every Form of Chemical Service.

Ask for

"THE CONSULTING CHEMIST AND YOUR BUSINESS"

313 Washington St., Brooklyn 1, N. Y.

H. A. SEIL, Ph.D. E. B. Patt, Ph.C., B.Sc.

SEIL, PUTT & RUSBY, Inc.

Analytical and Consulting Chemists

Specialists in the Analysis of Organic Insecticides, Pyrethrum Flowers, Derris Root, Barbacee, or Cube Root—Their Concentrates and Finished Preparations

DRUGS—ESSENTIAL OILS—SOAP

16 East 34th St., New York 16, N. Y.

SKINNER & SHERMAN, INC.

246 Stuart Street Boston, Mass.

Bacteriologists and Chemists

Disinfectants tested for Phenol Coefficient. Toxicity Index determined by chick embryo method of Salle. Antiseptics tested by agar cup plate and other standard methods.

Chemical Analyses and Tests of All Kinds

CHEMICAL ENGINEERS

Contracting — Consulting

Complete Plants and Engineering Services for:

Glycerine — Fats and Oils
Soaps — Hydrogenation
Fatty Acids — Hydrogen
Research, Reports, Investigations

WURSTER & SANGER, INC.

52nd Street and S. Kenwood Avenue
Chicago 15, Illinois

APPLIED RESEARCH LABORATORIES, Inc.

Biologists, Bacteriologists, Chemists

Standard and Special Bacteriological Tests

Skin Irritation and Absorption Tests

Chemical and Physical Analyses

Toxicological Tests

Clinical Studies

Dayton, New Jersey

HOCHSTADTER LABORATORIES

INC.

23 W. 47th Street New York City 19

Specializing in analysis, research and formula development for manufacturers of

**Soaps Detergents
Waxes Polishes**

Stillwell and Gladding, Inc.

Analytical and Consulting Chemists

Members Association of Consulting Chemists and Chemical Engineers

130 Cedar St., New York City 6

FILLING AND PACKAGING SERVICE

We can fill label and pack

Liquid { Soaps
Polishes
Insecticides

Direct Shipping Arranged

THE EMFO CORPORATION

87 Maiden Lane
New York 7, N. Y.

PATENTS—TRADE MARKS

All cases submitted given personal attention

Form "Evidence of Conception" with instructions for use and "Schedule of Government and Attorneys' Fees"—Free.

Lancaster, Allwine & Rommell

PATENT LAW OFFICES

Suite 402, Bowen Bldg., Washington, D. C.

CONSULTING ENTOMOLOGIST & CHEMIST

ENTOMOLOGY — PLANT PATHOLOGY
Research—Formulas—Legal Service
INSECTICIDES & INSECT REPELLANTS
EVALUATED

DR. E. R. de ONG

503 Market St., San Francisco 5, Cal

C. C. McDONNELL, D.Sc.

Consultant

Labeling and advertising insecticides, fungicides, disinfectants and caustic poisons under the Insecticide act of 1910 and other federal laws.

122 Hesketh Street
Chevy Chase 15, Maryland

JAMES LABORATORIES

189 W. Madison St.
Chicago 2, Ill.

Research Analysis

Specialists in the applications of disinfectants and fungicides, factory sanitation and sterilization.

GREATER *Kills* with CERTOX

REG. U. S. PAT. OFF.

Rodent Seed, Ant Jelly, Arsenic, Carbolic, Pyrethrum, Cresylic, Red Squill, Derris Powder, and other effective chemicals that do a thorough job for the Pest Controller. The quality of CERTOX products remains unaffected by the national emergency. Prices, too, are near normal.

YOUR GUARANTEE:

All CERTOX products are manufactured according to exacting specifications under personal supervision of I. H. LUTTAN, B. S. A., Entomologist.

SPECIAL CONTRACT PRICES
Available to Cover your Annual Needs.

YORK CHEMICAL CO.

Suppliers of Complete Exterminating Chemicals.

424 West 18th Street, New York, N.Y.

CATIONIC - QUATERNARY AMMONIUM SALTS ALKYL DIMETHYL BENZYL AMMONIUM CHLORIDE

(Alkyl Group corresponds to Coconut Oil)
supplied as solution in water.

CETYL TRIMETHYL AMMONIUM BROMIDE

supplied as 25% solution in water.

CETYL DIMETHYL ETHYL AMMONIUM BROMIDE

supplied as 25% solution in water.

"ETHYL CETAB"* DRY QUATERNARY

"OCTAB"* DRY QUATERNARY SALT

"OCTIMET"* DRY QUATERNARY SALT

Useful as Germicidal and Bactericidal Agents, Emulsifiers, Wetting Agents. Sanitizing in Industry, eggs, fisheries, canneries, disinfectants, dairies, etc. Dishwashing and glassware cleansing. Air conditioning, water treatment.

RHODES CHEMICAL CORP.

JENKINTOWN, PENNA.

*Trade name by Rhodes Chem. Corp.

Buy and Hold VICTORY BONDS

WANTED
YOUR IDLE MACHINERY
WILL BUY FROM SINGLE ITEMS
TO COMPLETE PLANTS

We have urgent calls for all sizes and types of Soap Mfg. Machinery. If you have any idle or surplus machinery, send us your list.



THE KEY TO SAVING TIME AND MONEY

CONSOLIDATED
PRODUCTS COMPANY, INC.

15-21 PARK ROW
BARclay 7-0600

NEW YORK 7, N. Y.
Cable Address: EQUIPMENT



THE MARK OF QUALITY

PALE WOOD

ROSINS

They will help
the soapmaker
"stretch" his fats.

CROSBY NAVAL STORES, INC.

PICAYUNE, MISSISSIPPI

**MANUFACTURING
DESIGNING • ASSEMBLING**

Tubing of all types manufactured to your design for insecticide sprayers, DDT applicators, soap and disinfectant dispensers. Specialists in small mechanical products of all types with a complete assembly service.

Consult our engineering specialists regarding any of your problems.

ROBERTS MFG. CO.

304 East 23rd Street New York City

CLASSIFIED

Classified Advertising — All classified advertisements will be charged for at the rate of ten cents per word, \$2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, \$1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap & Sanitary Chemicals*, 254 West 31st St., New York 1.

Positions Open

Wanted: Experienced practical soap maker capable of supervising all phases laundry and household soap manufacturing. Must have best of references. Salary \$5,000 to start. Address Box 241, care of *Soap & Sanitary Chemicals*.

Salesman Wanted: Established, rapidly growing insecticide manufacturer has exceptional opportunity for several ambitious representatives to sell our well known popular insecticides; also introduce new items containing DDT. Our line of insecticides covers all branches of agriculture, including greenhouse, truck garden and orchard crops. Territories now available to energetic men with sales or growers' experience on drawing account basis plus bonus and expenses. State age and experience fully, and drawing required. Address Box 242, care of *Soap & Sanitary Chemicals*.

Soap Maker: Soap factory in Panama needs first class soapmaker with recent experience in the manufacture of all types of soap from cheapest laundry soap to finest toilet soap, flakes and powder included, must be capable of organizing production and laboratory. If desired, permanent position with good salary and bonus to the right man. State age and experience. Reference required. Address Box 243, care of *Soap & Sanitary Chemicals*.

E. G. THOMSEN, Ph.D.

Consultant on plant lay-out, equipment design and product formulation for manufacturers of insecticides, disinfectants, floor waxes, soaps and allied products.

306 Center St., Winona, Minn.

Free Advts. for Veterans

As a service to veterans seeking jobs in the soap, chemical, detergent and sanitary industry, *Soap & Sanitary Chemicals* will accept, without charge, classified advertising from World War II veterans seeking positions. Advertisements should reach this magazine before the 21st of the month preceding month of publication, and should include all essential information. Send them to *Soap & Sanitary Chemicals*, 254 West 31 St., New York 1, N. Y.

Positions Open

Soap Maker: Experienced. Upstate New York soap and chemical manufacturer wants a well-trained soap maker or chemical batch processor to take over production and processing responsibility rapidly growing new department vegetable oils, soaps, etc. Reply by letter giving age, education, experience, salary expectations, availability. Genesee Research Corporation, 571 Lyell Avenue, Rochester 6, New York.

Chemist Wanted: Preferably a Ph.D. who is familiar with detergents generally. Should have a good creative mind and be able to do own formulation. Salary arranged at interview. Write qualifications in strict confidence. Address Box 244, *Soap & Sanitary Chemicals*.

Salesmen: Large manufacturer Sanitary Chemicals, selling to distributors has opening for experienced men. Good opportunities in established territories. Must be capable of earning in excess of \$5,000.00. State experience and references in first letter. Address Box 247, care of *Soap & Sanitary Chemicals*.

Soap or Wax Maker: Established company in New York Metropolitan Area offers permanent position and liberal salary to experienced

C. WM. LENTH

Consultation

**Organization and
Supervision of Research**

Patents

400 W. Madison Street
Chicago 6, Ill.

man. Address Box 248, care of *Soap & Sanitary Chemicals*.

Salesman: Penna. manufacturer has opening for experienced salesman with following among industrial and institutional buyers. Our salesmen have been informed of this advertisement. Write giving experience, references and salary expected. Address Box 249, care of *Soap & Sanitary Chemicals*.

Chemist: For Research and Development work in laboratory and plant of New York Specialties Manufacturer. Give complete information in letter of application. Address Box 250, care of *Soap & Sanitary Chemicals*.

Wanted: Chemical and Mechanical Engineer, experienced in the manufacture of fancy toilet soap, as well as other soap products. Must be experienced, have a good record and understand all phases of soap plant problems, both mechanical and chemical. Salary commensurate with the experience and fitness for position. Do not reply unless you can take full charge of all plant problems. Middle West location. Address Box 252, care of *Soap & Sanitary Chemicals*.

Soap Maker: Metropolitan New York company will pay \$4,500 per year to experienced soap maker. In writing give full details regarding age, experience, availability. Address Box 253, care of *Soap & Sanitary Chemicals*.

Janitor and Bldg. Maintenance Supplies Wanted: Manufacturer covering northern New England wishes to add above items to his line. Would appreciate your catalog with jobber's prices. Address Box No. 256, care of *Soap & Sanitary Chemicals*.

Insecticides — Sales Manager wanted by long established mid-west manufacturer to head department of

REPLACEMENTS

For
AROMATIC CHEMICALS
ESSENTIAL OILS



SOAP PERFUMES
ODOR MASKS

SEELEY & CO.

136 LIBERTY STREET NEW YORK 6, N. Y.

FACTORIES
FARMINGDALE, L. I., N. Y. NYACK, N. Y.

DDT INSECTICIDES

We are licensed under Patent No. 2,329,074 and can supply royalty-paid materials compounded as you wish.

Whenever you need
ROTENONE
Powder — Resins — Extracts
We can, as always, give you the best.

DERRIS, INC.

Specialists In Rotenone Roots and Rotenone Products
79 WALL STREET NEW YORK 5, N. Y.

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available.

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

*It will pay you to send
for testing samples.*

PYLAM PRODUCTS CO., INC.

Manufacturing Chemists, Importers, Exporters

799 Greenwich St. New York City 14

Cable Address: "Pylamco"

A Fast Selling Item!

NEW • SAFE • SURE

WIZO RAT GLUE BOARDS



NO POISON • NO BAIT!

A practical and modern way to rid buildings of rodent pests! No hazards of poisoned bait . . . or of decomposition! Easy to prepare! Just place WIZO Rat Boards near rat hole or form a runway next to walls. Fasten boards to floor to prevent pulling away. Rodents are caught firmly the moment they step on the boards.

WIZO RAT GLUE can be obtained separately for preparing your own boards.

Write for catalog and prices on complete line of Deodorants and Insecticides.

ELKAY PRODUCTS CO.

323-27 West 16th Street

New York 11, N. Y.

Positions Open

insecticides and other household specialties. Good opportunity for experienced man. Give full details record, salary, etc. Address Box 257, care of *Soap & Sanitary Chemicals*.

Positions Wanted

Chemical Director & Production Chemist: Thirty years continuous experience in production of toilet soap, soap chips, potash liquid soaps, floor-wax emulsions, glycerine, fatty acids, sulfonated oils, wetting agents for textile application, metal treating compounds, coolants for machine tool application, and cutting oils, at present chemical consultant, wants permanent connection as chemical director, production man or chief chemist. Member American Chemical Society. Member of American Oil Chemist's Society. Have been chemical consultant, or special chemist for several of America's best corporations. Can go anywhere. Reply Box 240, care of *Soap & Sanitary Chemicals*.

Sales Executive (34) dynamic, personable, background sales management, production, marketing of industrial chemicals (coal-tar), insecticides (package), fungicides, and antiseptics. Seeks connection with progressive manufacturing organization in chemical or allied fields. Locate New York City or vicinity. Address Box 254, care of *Soap & Sanitary Chemicals*.

Salesman—Man with following in cosmetic, soap, perfume, drug, and allied trades in Chicago and Middle West area just released from Marine Corps seeks sales connection in this or other locality where previous experience will be of value. For further details communicate with Dr. E. G. Thomssen, 306 Center Street, Winona, Minnesota.

Salesman Wanted for prominent line of liquid soap dispensers for the jobbing trade. Give full details in your first letter. Address Box No. 258, care of *Soap and Sanitary Chemicals*.

Miscellaneous

Ruperto Busto. Cornella (Barcelona) Spain — EXPORTS: Rare ores, chemicals, raw materials, medicinal herbs and roots, essential oils, crude drugs, dried fruits, seeds. IMPORTS: Chemicals, metals, raw materials, drugs, spices, colonial products.

Miscellaneous

Wanted: Interested in exclusive sales rights of a line of Sanitary Chemical and Roofing Products. Will have salesmen covering Arizona, New Mexico, Texas, Colorado, Louisiana and Kansas. Salesmen will operate from central office in Oklahoma. Address Box 245, care of *Soap & Sanitary Chemicals*.

For Sale: New household deodorant, attracts and absorbs odors. Novel dual purpose dispensers. Packaging ideas, original Brand Name, Formulas and patent-applied-for dispensers for sale on royalty basis. Product requires national advertising. Address Box 246, care of *Soap & Sanitary Chemicals*.

Notice: Exclusive territories now available for nationally known dry cleaner's detergent. Can be handled with other lines going to dry cleaners and laundries. Straight commission basis. Write full particulars to Tru-Sheen Corporation, 1558 Oak View Ave., Berkeley 6, Cal.

For Sale: Houchin "Empire State" Foot Press. Two Way Soap Cutting Table. Slabber. Soap Frames. Three Roll Water Cooled Mill 16" x 40". Stone Mills; Dryers; Mixers; Grinders; Filter Presses; Kettles & Tanks; Pumps; Ball Bearing Conveyor, etc. Send for our latest Bulletin. We buy your surplus equipment for cash. Stein Equipment Co., 426 Broome Street, New York 13, N. Y.

Notice: Belgian firm, well introduced, with first class sales organization, wants to act as AGENT OR EXCLUSIVE BUYER for cleansing preparations and other articles for druggists, in Belgium, Holland, Luxembourg and Scandinavia. Please apply to: Laboratoires DECA, 51 Rue de Poincon, Brussels, (Belgium).

Will Purchase Immediately — Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 223, care *Soap & Sanitary Chemicals*.

Wanted: Do you have an extra copy of "Modern Soap Making" by Thomssen and Kemp, for which you have no further use? The publishers will be glad to buy back books in good condition at full sale price. These books are to be re-sold to those who urgently need copies.

Miscellaneous

For Sale: Lehmann 5 Roll Soap Mill; 10" Jumbo Plodder; Filters; Pumps; Fillers; Labelers; Mixers; etc. Your surplus equipment wanted. Brill Equipment Company, 225 W. 34th Street, New York 1, N. Y.

Floor Brushes: We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Company, Los Angeles, Cal.

Sanitation Foundation Meets

The first annual meeting of the National Sanitation Foundation was held at the University of Michigan, Ann Arbor, Oct. 17. The foundation, which is financed by manufacturers of equipment and supplies used in the restaurant field, in addition to a number of operators of public eating places, appointed a permanent industrial advisory committee.

Col. Cummings Honored

Col. Samuel Cummings, AUS, president of Pylam Products Co., New York, who has been serving with the Chemical Warfare Service in New York for about three years, was recently awarded the Legion of Merit decoration for meritorious service. The medal, which was presented at ceremonies on Governor's Island, N. Y., Oct. 26.

SOLVENTS FOR DDT

(From Page 115)

emulsions for mosquito-larvicide applications. These points are under study by other members of this laboratory. In general, biological tests should be made of any DDT solution or emulsion before it is recommended for use.

Literature Cited

1. Fleck, E. E., and H. L. Haller. 1945, Compatibility of DDT with some insecticides, fungicides, and fertilizers. *Indus. and Engin. Chem.* 37:403-405.
2. Gunther, F. A. 1945. Dichlorodiphenyltrichloroethane. I. Solubility in various solvents. *Jour. Amer. Chem. Soc.* 67:189-190.
3. Jones, H. A., and S. Love. 1937. The solubility of rotenone. II. Data for certain additional solvents. *Jour. Amer. Chem. Soc.* 59: 2694-2696.

DROP CARNAUBA PRICE CONTROL

(From Page 131F)

The recent OPA action terminates this phase of the committee's work, but efforts are continuing to see if any way can be found to make available to members of the industry a share of the heavy inventories of carnauba wax believed to exist in a few hands. At the October 11 meeting a letter from Chester Bowles, OPA price administrator, was read, dealing with this phase of the carnauba wax supply problem, quoted in part as follows:

"It is a matter of record that some directly-importing industrial users have imported more than their normal share of supply, and we have concluded arrangements with the War Production Board with the understanding that these companies will be required to sell some of the excess inventories to other consumers of carnauba wax. It is suggested that you refer your request to Mr. Edward Browning, Jr., deputy vice-chairman, International Supply, War Production Board, Washington 25, D. C."

Attention was also called to a provision of WPB order PR-32, dated August 28, 1945, and intended to effect inventory control on scarce materials, which provides as follows:

"Restrictions on receipts—(1) General rule. A person may not accept delivery of any material if his inventory of that material is, or will be, more than a practicable minimum working inventory reasonably necessary to meet his own deliveries on the basis of his current or scheduled method and rate of operation."

Investigation in Washington revealed, however, that it would probably accomplish nothing to put an imported article such as carnauba wax under the provisions of this order. It was pointed out that importers would simply accumulate their stocks in the primary market where the WPB would have no control over them. They could then draw on these stocks as needed, circumventing the provisions of WPB regulations as readily as they have defeated the purpose of OPA price controls.

Acid Resistant Wood Described

"Asidbar," a new, plastic-impregnated wood has been developed by Koppers Wood Preserving Technical Department, at Orrville, O. The new product, it is claimed, makes structures resistant to acid solutions or fumes. The plastic treating material is liquefied by high temperature and the wood being processed is immersed in the compound in sealed retorts. The plastic is forced deeply into the wood fibers by high pressures at temperatures sufficiently high to hold the compound in liquid state. After impregnation for 10 to 20 hours the compound sets up to a plastic solid distributed in the cells of the wood as it is allowed to cool, to produce the material known as "Asidbar."

Wash for Cattle

A satisfactory wash against cattle grubs is composed of 12 ounces of ground cube or derris and 4 ounces of granular laundry soap per gallon of water. *Bull. Assoc. Am. Soap & Glycerine Producers, Sept. 1945.*

SOPAC

SAFETY HAND SOAP

(Powdered)

A money-maker for alert jobbers calling on industrial plants and institutions.

- ★ Hygienically safe—fast and economical
- ★ Non-abrasive, vegetable oil base
- ★ Soothing with fine after-effect
- ★ Tested and approved by millions of safe washups in plants throughout the country
- ★ Unsurpassed quality and value
- ★ Free samples available for established jobbers

Other items in the Skotch Products line include dish-washing compounds, medium and heavy duty cleaners, liquid soap concentrate, special formula compounds and powdered soap dispensers.

SKOTCH PRODUCTS CORP.

2710-12 Detroit Ave.

Cleveland 13, Ohio

POWERED SPRAYER



for BLITZING BUGS

ADAM A. BREUER'S ELECTRIC INSECTICIDE SPRAYERS

No insecticide, no matter how powerful, can do its best work unless it makes contact. So be sure the Sprayer you use for spraying your insecticides has plenty of power and capacity to do the job right. You can be certain of such power and effectiveness with the ADAM A. BREUER'S ELECTRIC (motorized) INSECTICIDE SPRAYER. Shoots insecticides up to 20'. Penetrates crevices, cracks, hard-to-reach places. Four models, 1/4 to 1 H.P. Write, giving details of your problems and requirements.

[We do not sell insecticides. Our business is the manufacture of Sprayers. (Patented in U. S. A. and foreign countries.)]

BREUER ELECTRIC MFG. CO. 3118 N. RAVENSWOOD AVE.
CHICAGO 40, ILL.

TO ADVERTISERS

* For further details see announcement in 1945 SOAP BLUE BOOK

*American-British Chemicals Supplies	77
*American Can Co.	105
American Standard Mfg. Co.	Oct.
Anchor-Hocking Glass Co.	131C
Applied Research Labs.	151
*Aromatic Products, Inc.	3rd Cover
*Associated Chemists, Inc.	90
Atlas Powder Co.	107
Attapulugus Clay Co.	Oct.
Axton-Cross Co.	148
*Baird & McGuire, Inc.	108
J. T. Baker Chem. Co.	126
*Barrett Co.	Oct.
*Bobrick Mfg. Co.	Oct.
Bonnot Co.	15
*Breuer Electric Mfg. Co.	156
*Bri-Test Products Corp.	141
Buckingham Wax Co.	Oct.
Bush Aromatics	Oct.
Can Manufacturers Institute.	102
*Carbide & Carbon Chemicals Corp.	Oct.
Carlstadt Chemical Co.	Oct.
Central Chemical Co.	Oct.
Chemical Mfg. & Dist. Co.	20
Chemical Supply Co.	138
John A. Chew, Inc.	148
Antoine Chiris Co.	Oct.
Cole Laboratories	137
Compagnie Parento	Oct.
*Consolidated Products Co.	152
*Continental Can Co.	18, 89
Continental Car-Na-Var Corp.	132
Cowles Detergent Co.	76
Crosby Naval Stores.	152
*Crown Can Co.	48
E. R. de Ong.	151
*Davies-Young Soap Co.	24
*Derris, Inc.	154
*Diamond Alkali Co., Standard Silicate Division.	Oct.
*Dodge & Olcott Co.	8, 88
*Dow Chemical Co.	.66, 4th Cover
*P. R. Dreyer Inc.	116
*E. I. du Pont de Nemours & Co. Facing 14, 131A	
*Eastern Industries	40
Elkay Products Co.	154
Emery Industries	Oct.
Emfo Corp.	151
Emulsol Corp.	74
Essential Chemicals Co.	22
Federal Tool Corp.	133
*Federal Varnish Co.	134
*Felton Chemical Co.	21, 93
Filtrol Corporation	Oct.
*Firmenich & Co.	7
*Florasynt Laboratories.	Facing 47
Franklin Research Co.	128
Fritzsche Brothers, Inc.	52
*Fuld Brothers	3
Gardner-Richardson Co.	81
Geigy Co.	Oct.
General Chemical Co.	19
*General Drug Co.	2nd Cover
General Dyestuff Corp.	Between 46 & 47
*R. Gesell, Inc.	Oct.
*Giyaudan-Delawanna, Inc.	12, 13
R. W. Greeff & Co.	140
A. Gross & Co.	55
*W. C. Hardesty Co.	Oct.
Hercules Powder Co.	84, 85
Hochstadter Labs.	151
*Hooker Electrochemical Co.	54
Hospital Management	98
*Houchin-Machinery Co.	62
House of Milo.	103
Huber Machine Co.	146
H. D. Hudson Mfg. Co.	95
*Hysan Products Co.	9
Industrial Chemical Sales Division W. Va. Pulp & Paper Co.	58
Inland Steel Container Co.	74
*Innis, Speiden & Co.	Oct.
Institutions Magazine	100
Interstate Color Co.	148
James Laboratories	151
R. A. Jones & Co.	26
Karl Kiefer Machine Co.	Sept.
Koppers Co.	130
Kranich Soap Co.	44
H. Krevit & Co.	139
*Lancaster, Allwine & Rommel.	151
*J. M. Lehmann Co.	Oct.
C. W. Lenth.	153
Harold A. Levey Labs.	Oct.
Lowell Mfg. Co.	135
*Geo. Lueders & Co.	16
MacKenzie Laboratories	132
*Magnus, Mabce & Reynard, Inc.	80
*N. I. Malmstrom & Co.	60
*M. & H. Laboratories.	136
Mantrose Corp.	Oct.
Maryland Glass Corp.	Oct.
C. C. McDonnell.	151
*McLaughlin Gormley King Co.	Oct.
Michigan Chemical Corp.	Oct.
Miranol Chemical Co.	142
Mirvale Chem. Co.	146
Monsanto Chemical Co.	4
Moore Bros. Co.	138
National Aniline Division.	Facing 22
National Can Co.	82, 83
National Milling & Chemical Co.	142
Wm. D. Neuberg Co.	148
New York Dermatological Lab.	Sept.
*Newman Tallow & Soap Machinery Co.	150
*Niagara Alkali Co.	Facing 46
Norda Essential Oil & Chemical Co.	68
Olsen Publishing Co.	96
*Orbis Products Co.	131E
Oronite Chemical Co.	Oct.
Owens-Illinois Glass Co.	Oct.
Peck's Products Co.	140
*S. B. Penick & Co.	118
Pensacola Municipal Advertising Board	72
*Pennsylvania Refining Co.	141
Pennsylvania Salt Mfg. Co.	Sep.
*Per-Mo Mothproof Co.	134
Petroleum Specialties	Sept.
Philadelphia Quartz Co.	17
*Pittsburgh Coal Carbonization Co.	Oct.
*Pittsburgh Plate Glass Co., Columbia Chemical Division.	11
*John Powell & Co.	79
*R. J. Prentiss & Co.	101
*Proctor & Schwartz, Inc.	Oct.
*Pylam Products Co.	154
Charles L. Read & Co.	144
Regal Chemical Corp.	86, 87
*Reilly Tar & Chemical Co.	135
Rheem Mfg. Co.	42
Rhodes Chemical Corp.	152
W. C. Ritchie & Co.	Oct.
Roberts Mfg. Co.	153
*Rohm & Haas Co.	120
A. H. Ross Co.	Oct.
Rumford Chemical Works.	6
Sanders-Evenson Chemical Co.	144
St. Lawrence Chemical Co.	Sept.
Sanitary Soap Co.	91
*C. G. Sargent's Sons Corp.	64
*Schimmel & Co.	50
F. E. Schundler & Co., Inc.	72
Sealey & Co.	154
Seil, Putt & Rusby.	151
Shell Oil Co.	114
Sherolite Products	Sept.
Henry Simon, Ltd.	75
*Skinner & Sherman.	151
*Skotch Products Corp.	156
*Foster D. Snell.	151
*Solway Sales Corp.	23, 99
L. Sonneborn Sons, Inc.	104
Sparhawk Co.	136
Standard Alcohol Co.	Oct.
Stillwell & Gladding.	151
*Stokes & Smith Co.	Oct.
Tamms Silica Co.	Sept.
E. G. Thomssen.	153
*Tombarel Products Corp.	Oct.
Triangle Package Machinery Co.	Oct.
Jos. Turner & Co.	Oct.
Twin City Shellac Co.	Oct.
Ultra Chemical Works.	25
*Uncle Sam Chemical Co.	133
Ungerer & Co.	Front Cover
U. S. Bottlers Mch'y. Co.	76
U. S. Industrial Chemicals, Inc.	Between 70 & 71
*Van Ameringen-Haebler, Inc.	10, 124
R. T. Vanderbilt Co.	Oct.
*Velsicol Corp.	Oct.
*T. F. Washburn Co.	122
*Welch, Holme & Clark Co.	55
*Westvaco Chlorine Prods. Corp.	Oct.
*Whittaker, Clark & Daniels.	139
Williams Co.	137
*Würster & Sanger, Inc.	151

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.



"Mah cannibal instincts always gets powerful strong at Thanksgiving time, Cuthbert."

Let's Talk Turkey....

WHEN you talk about your products with the idea of making sales, you can't afford to talk in generalities to just anybody. It's better to talk turkey, and talk it directly to the people you want to sell. That's why trade paper advertising has always been so effective—it allows you to tell your story directly to the people in whatever industry you desire.

If you want to talk turkey to the people in the field of soap, insecticides, and other chemical and household specialties, we suggest regular advertising in

SOAP and Sanitary Chemicals

254 WEST 31st STREET

NEW YORK 1

Member Audit Bureau of Circulations

Tale Ends

CHARACTERIZING DDT as the "most stupidly publicized insecticide ever to come on the market" and as being "grossly oversold," chief law enforcement officials of a large mid-west state which still requires a poison label on DDT preparations over 1 per cent, recently stated he had received hundreds of letters from dealers and householders "complaining they had been gypped by this fraud." Boy, page Winchell and the USPHS!

Spot phosphate supply is still tight! Reason given from one quarter is that P & G are switching "Spic & Span," heretofore a soda-borax product over to a TSP-TSPP mixture and adding a big radio advertising campaign. Hence, a big tonnage of phosphates being taken out of the market.

"Can you lend me five tons of soap chips until next month, Joe?" This was the request from one soaper to a friend with another soap company recently. "I'm sorry, Pete, but I couldn't lend you five pounds. In fact, I was going to call you tomorrow to see if you couldn't help us out with about ten tons." Sounds like baloney, but it is reputed to be a true story.

Twenty different types of labels would be required for a DDT insecticide which could be sold in all 48 states, says a Penna. insecticide manufacturer. He also suggests that any user of lithographed cans will be able to drive his can supplier crazy without half trying by giving him an order for DDT cans for national distribution. He probably meant those can suppliers who already have not been driven completely nuts.

"Dear Dad:—Here I sit outside of our tent in this god-forsaken hole eating the meat of a coconut which grew on a tree just across the road. Don't they use this stuff to make soap or something?" Extract from a letter to the editor from his son on Guam. (And incidentally, the Navy is now building a small soap plant on Guam. Story coming.)

